

**SAFETY
ON
RAILWAYS**

See Page 2



"THE TIMES" OF THE TRANSPORT WORLD

**LOCAL
SERVICE
AIRCRAFT**

See Page 5

VOL. LXXVIII No. 2028

[Registered at the G.P.O.
as a newspaper]

LONDON, FEBRUARY 8, 1958

PRICE NINEPENCE

B.T.C. a Policy-Making Body

THE British Transport Commission is not a management body, but a policy-making body with the duty of setting out a clear policy which its whole organisation, as well as the country and the Government, could see and understand. So stated Sir Brian Robertson, its chairman, at the first of a series of B.T.C. officers' conferences held at Oxford last year; his address is published in the current issue of the Commission's *British Transport Review*. The policy, he said, had been condensed in the White Paper (reviewed in our issue of November 3, 1956), which revealed the Commission's financial position and made a serious commitment for the future. But there was also the duty of preparing a plan so that each division of the organisation could know what was expected of it and all could see the ideas for attaining the object of the policy. The Commission's plan was based upon four main pillars—organisation, modernisation, traffic policy and staff. As regards the first, there had been much talk of better co-ordination between the various divisions of the B.T.C. The chairman pointed out that although at present the area boards only had authority over the railway regions it was specifically laid down that they should survey the whole transport picture within their area, and they were provided with the means and authority to get information about British Road Services, the docks, waterways and the hotels and catering services. The area boards were expected to keep the overall picture in their minds, and there were certain other signs indicating the Commission's intention to use them as a means towards better co-ordination. Discussing organisation, Sir Brian said there was a weakness on the technical side owing to the multiplicity of separate engineering departments all reporting separately direct to the general management. Designed for the steam age, there was need for rationalisation of the technical set-up.

Management and Recruitment

DECENTRALISATION of management, Sir Brian Robertson stated, aimed at ensuring that one person was responsible for providing the service, for selling it, and for selecting the traffic as well. In the context of the new charges scheme it was particularly essential that there should be firm management at district level. Accountability was a powerful and necessary instrument of management, but means had not yet been devised of making the regions properly accountable to the Commission. Good traffic policy needed the setting out of clear directions for the operation of the new charges scheme—other schemes were "coming along" for the docks and the waterways—and required revised methods of operation to conform to the scheme and to make the best use of new equipment now becoming available. The Commission attached very great importance to the improvement and cheapening of freight handling methods. "It is also in the freight depots and in the marshalling yards that delays take place which spoil our reputation with our customers and lose an enormous amount of business," he said. Hence particular attention was being directed to mechanised handling and the use of containers, pallets and other devices. There was also the need to concentrate upon certain definite traffic—export traffic to the ports was an example; an attempt to attract all the traffic all the time would not get very far. Relations with the staff had improved, and the unions were co-operating with the Commission to get better efficiency, particularly in the development of work study schemes. But if there was one direction in which the whole of the undertaking needed to make more progress it was in the recruitment, training, advancement and selection of its officer material. The Commission must build up the management of the future, and quality staff was needed in the junior grades as well. But having obtained good material it was extremely important to use it and not to neglect it, otherwise it would be rapidly lost; this did not mean pampering, but giving a

fair crack of the whip and a good chance to get on. Concluding, the chairman said that the ultimate aim could be achieved if the tasks ahead were undertaken with confidence and with determination to surmount all difficulties. It seems clear that this is now being done.

What British Aircraft Have Done

IN a speech last week to the Institute of the Aeronautical Sciences in New York, Sir George Edwards, president of the Royal Aeronautical Society and managing director of Vickers-Armstrongs (Aircraft), Limited, recalled that, in 1949, he had expressed the

Transport and Education

TAKING advantage at the informal luncheon of the Institute of Transport in London on Tuesday of what he described as the first invitation he had ever had to talk about transport, the Parliamentary Secretary to the Ministry of Education, Sir Edward Boyle, made some comments upon the transport situation as he saw it and what he felt had been some remarkable achievements in the twelve years since the war. He commended the diesel-electric sets on the Hastings line, British progress in civil aviation and road transport developments. Far more important than miles of motorways was the elimination of bottlenecks and he wel-

ordered 60 reconditioned double-deckers from the London Transport Executive. These buses will probably be delivered in the island in March for city and suburban runs. The board has, in addition, ordered several single-deckers from London Transport for service on the outstation routes. Negotiations are also in hand with coachbuilders in London for the supply of complete Leyland buses. The board has now placed orders with various manufacturers for a supply of 15,000 tyres—sufficient for the next year. These include 3,000 tyres from France, 2,000 from Japan, 2,000 from China, 1,000 from Australia, 1,000 from West Germany, 500 from Italy and 500 from Czechoslovakia.

Holidaying in Britain

BRISK business is already being done in January at travel agencies up and down the country for the coming summer season, but those polychromatic displays enticing us to sun-drenched Spain or Yugoslavia or maybe a Scandinavian country, conceal the surprising fact that holidays in Britain did very nicely in the summer of 1957. The British Travel and Holidays Association provides the explanation—53 per cent of the population taking a holiday from home instead of only 49 per cent in 1956 coupled with the blight of petrol rationing at the turn of the year when holidays germinate in most people's minds these days. Express coach operators, it seems, came off worse in what was for them a tragic situation. Unable to lay on tours because of uncertainty as to fuel supplies by early summer, or in some cases to book as many duplicates as they could have filled, they had to watch some people going by rail instead. This is a reasonable inference from the fact that rail traffic to some resorts was up by 30 per cent. It would be encouraging to hope that our coast and inland attractions can retain this slice of the annually larger holidaymakers' cake; nice, too, to think that they were seizing the opportunity to improve hotel, restaurant and café service where criticisms have been laid.

Ashton Davies

IN the passing of Ashton Davies the transport world loses one of its most colourful and popular figures. Although he retired from his vice-presidency of the L.M.S.R. in 1944 and, forsaking business activity, sought the solace and quietude of his beloved St. Annes, one has since seen him occasionally in his old haunts in London. In fact, Lancashire born and bred—and with all the best that expression connotes—he never forsook his northern home, and one recalls many happy journeys northwards in his exhilarating company during the war. But one's earliest recollection of this old and dear friend is a visit to his admirable control system at Hunts Bank, Manchester, shortly after the 1914-18 war as a prelude to the first congress of the Institute of Transport. No one meeting "A. D." could help liking him, and, despite the professional rivalries aroused at Euston and elsewhere on the amalgamation in 1922 of the Lancashire and Yorkshire and London and North Western Companies, forerunner of the 1923 groupings, his appointment as general superintendent of the northern division proved a fitting and popular one. Until later years his experience was essentially operating, and his eventual transference to the commercial side caused surprise, followed, none the less, by reassurance, because "A. D." quickly proved himself a first-class salesman. Indeed, with his operating background, in the role of chief commercial manager he justified Lord Stamp's dictum that responsibility for getting traffic should include dictation as to the facilities required, a matter more widely appreciated today than then. On top of his wide railway experience Davies was blessed with qualities such as good humour, friendliness and a restless enthusiasm, which endeared him to all who worked with him and gave him an ever-widening circle of friends. He was the railway salesman *par excellence* and a model for present-day practice.

CURRENT TOPICS

LEADING FEATURES IN THIS ISSUE

Portrait	PAGE		PAGE
The late Mr. Ashton Davies, C.V.O., O.B.E., J.P., M.Inst.T.	9	General Purpose Containers by Park Royal for British Railways	13
Special Articles		Modern Airways Section	
Safety on Railways	2	For Local Service: New Version of the Viscount	5
Improved Outlook for Coach Passengers: Plaxton-Bodied Reliances for S.U.T.	3	Regular Features	
Dosco Rationalisation: Four Basic Divisions Set Up	6	Book Notices	9
Fiberthin Cover Fabric	6	Commercial Aviation	9
Railway Management: Organisation to Meet Conditions: By E. W. Arkle	7	Financial Results	16
Liner Operation and Turnround of Ships: Problems of the Shipowner: By R. S. MacTier	10	Forthcoming Events	6
Penetrating Lines Eliminated: Further Adjustments in Regional Boundaries	12	Important Contracts	16
New Rochdale Double-Deckers: Completion of A.E.C.-M.C.W. Order	13	In Parliament	9
		Letters to the Editor	14
		Lorry, Bus and Coach News	4
		News from All Quarters	8
		Publications Received	14
		Road Vehicle Industry	11
		Shipping and Shipbuilding	16
		Social and Personal	15
		Tenders Invited	16

belief that the most economical power plant for the medium or short range transport was the turboprop; further, he still believed that that was the case today. In this age of gas-turbine air liners all the western world's airline operating experience in turboprop and pure jet civil transports was British; the only other nation with actual knowledge of gas-turbine operation on civil services was the Soviet Union. The only western pure jet air liner so far to go into scheduled service was the British Comet which had operated regularly for two years for B.O.A.C., from 1952 till 1954, and had piled up 30,000 hr. of actual airline operating experience. Today Comets of the R.A.F. were flying schedules both ways across the Atlantic, across North America and to Christmas Island and were flying regularly to Australia. "In the field of the long-range turboprop," said Sir George, "the British Bristol Britannia stands alone and currently holds the Atlantic record for commercial air liners. The Britannia already has logged over 36,000 airline hours. On the shorter ranges the British Viscount turboprop, nearly ten years after the prototype first flew, has now flown a million airline operational hours all over the world. All this is before the first American jet or turboprop airliner has flown on airline routes at all." If the British aircraft industry had a weakness it stemmed from some companies being given tasks beyond their capacities. It seemed clear that the changes now being introduced in the industry in England would correct this situation and that a number of smaller but more powerful units would emerge. The British were thus in a unique position in that their new air liners, both jet and turboprop, were of a second generation and being designed by teams with great operating experience behind them who would go into this second round with the confidence that is born only of such experience.

came every move in that direction. Speaking in more serious terms, although in an equally disengaging manner, upon education and transport he stressed the work that his Ministry was doing to ensure that facilities for technical education were available. In present circumstances and with European free trade looming ahead much was heard of the need for higher production and how this was bound up with the availability of technically trained staff. That was perfectly true, but it must not be overlooked that distribution, exchange and commerce were other aspects of trade with an equal bearing upon the future and it would be most dangerous if production was favoured at their expense. Sir Edward welcomed the establishment by the Institute of the readership and fellowships at Oxford and, in another field, commended the introduction at Ealing Technical College of five-year sandwich courses for students at the instance of British European Airways. He asked those in transport to do all they could to see that their people could take advantage of such opportunities and emphasised the readiness of the Ministry of Education to help in any way it could.

Nationalised Buses in Ceylon

THE end of January marked the first month of the nationalised bus services in Ceylon. The services are now managed by the Ceylon Transport Board, which maintains that it is woefully short of vehicles and that the Government must give it more capital for purchase of buses. There is, however, now a greater sense of responsibility among the employees who had always considered that the private bus undertakings were exploiting them. They expect the board to redress their grievances regarding salaries and conditions of work during this year. The board has now

SCAMMELLS

have the capacity-



The Scammell "SCARAB" mechanical horse, for short haul work in congested areas.



Scammell 24 tons G.V.W. Articulated 8-wheeled Caustic Liquor Tanker.

Ranging from
3 TONS TO 150 TONS-

Scammell 6 x 6 "CONSTRUCTOR" Tractor for gross train weight up to 336,000 lbs.



Scammell 4 x 4 "MOUNTAINEER" Dump Truck. All wheel drive and power assisted steering.

Solving difficult transport problems is Scammell's speciality. For all Scammell vehicles are individually designed and built to an operator's specification.

Tractors and trailers for short haul services... articulated six- and eight-wheelers which operate with various types of carriers... dump trucks for construction work... heavy duty trucks for oilfields, and massively built units with a capacity up to 150 tons—these are but a few of the many purpose-built Scammell vehicles.

If you have a particular transport problem, please consult us.

- to solve your
transport
problems

SCAMMELL LORRIES LTD.

Home Sales Office: 3 LYGON PLACE, LONDON, S.W.1. Phone: SLOane 6117

Export Division: HANOVER HOUSE, HANOVER SQUARE, LONDON, W.1. Phone: MAYfair 8561



Published Every Friday
RUSSELL COURT, 3-16 WOBURN PLACE,
LONDON, W.C.1

Telephone Number: TERminus 0303 (3 lines)
Telegraphic Address: Transpobee, Westcott, London

ANNUAL SUBSCRIPTIONS
BRITISH ISLES, 35/-; CANADA, 32/6;
ELSEWHERE ABROAD, 35/-
payable in advance and postage free

The Editor is prepared to consider contributions offered for publication in MODERN TRANSPORT, but intending contributors should first study the length and style of articles appearing in the paper and satisfy themselves that the topic with which they propose to deal is relevant to editorial requirements. In controversial subjects relating to all aspects of transport and traffic this newspaper offers a platform for independent comment and debate, its object being to encourage the provision of all forms of transport in the best interests of the community.

Safety on Railways

OVER a long period of years the railways of Britain have won an unrivalled reputation for safety and phrases such as "safer in a train than in your own home" have passed into common parlance. For our part we believe this continues to be so and, furthermore, we believe that the majority of the British public reposes complete confidence in railway travel, despite what questions by their elected representatives or remarks in certain sections of the popular press might suggest. Recent incidents during train operations in dense fog are indeed regrettable, especially as one took place on a four-aspect colour-light signalled section and the other on a line where track and locomotives are provided with an automatic warning device, but the attitude of the public in peak-hour trains in thick weather is still in our experience very definitely not "are we safe?" but "why cannot we get on quicker?" Our views on overall railway safety are supported by the Chief Inspecting Officer of Railways at the Ministry of Transport, Lieut.-Colonel G. R. S. Wilson, whose latest report was reviewed as recently as our issue of November 30 last. In fact, during 1956 no passenger was killed in a train accident on British Railways, although there was an increase (by 70 to 1,226) in the number of such accidents; these resulted in 608 casualties (18 killed and 590 injured) compared with 975 (59 killed and 916 injured) in the previous year. The 18 fatalities, the result of 17 train accidents, comprised three railway servants besides 15 "other persons," 13 of whom were occupants of road vehicles involved in level crossing collisions.

Proud Record

IF this were not convincing proof of the integrity of railway organisation it may be emphasised that over the past decade the risk of death to a passenger in a train through accident was about one in 24 million journeys. Expressed in terms of numbers of deaths related to miles travelled, during the whole period 1943 to 1955 passengers travelled 734 million miles for each fatality. Last week Mr. James Watkins, a member of the British Transport Commission who has had something like half a century of railway experience, took the opportunity to claim that absolute safety was obtainable neither on the railway nor with any other form of fast travel. He suggested that the record of railwaymen was one of which they could be proud, especially in view of the fact that in Britain some of the densest traffic in the world was being handled, with more passengers on the Southern Region alone than on all the Class I railways of the United States. We have 23,000 passenger trains a day, a thousand million passengers a year, and 17,000 freight trains each working day. Over distances of 150 or more miles trains may be found at intervals down to four minutes. Safety depended on two complementary factors: the equipment provided and the human element working it. A high sense of public responsibility and devotion to duty was shown by all grades of staff on British Railways; drivers seemed to him the salt of the earth.

Improvement

IT could not be denied that slips sometimes happened, but it was certain that the railwaymen's sense of safety was a high one. It was a feature, said Mr. Watkins, watched closely by the British Transport Commission and it was a matter reviewed annually by the inspecting officers of the Ministry of Trans-

port. It was the practice to take up with the staff, the unions and the British Transport Joint Consultative Council any points which arose on safety matters and to examine how the best practices could be inculcated. These matters were pursued through sectional councils, local departmental committees and other means and the needs of the situation had been stressed again after the recent unfortunate incidents. Mr. Watkins underlined very strongly that the accidents were regretted but that it was not a case of erasing a black record by British Railways but of improving upon what was already a good one, intrinsically and in comparison with other railway systems and other transport media. As we made plain in our opening remarks, public opinion in this country is against the railway ceasing to operate in the conditions of fog, ice or falling snow under which certain other transport media are often excused. The only answer to the suggestion made in one quarter that some sort of a speed limit should be established in fog is, of course, that a train running under clear signals should be safe at whatever speed is reasonable for that route, even in dense fog. We have, in fact, in this country built up over the years systems of signalling, among the merits of which are their comparative simplicity combined with reliability and the fact that if a failure takes place it falls on the safe side.

New Warning Equipment

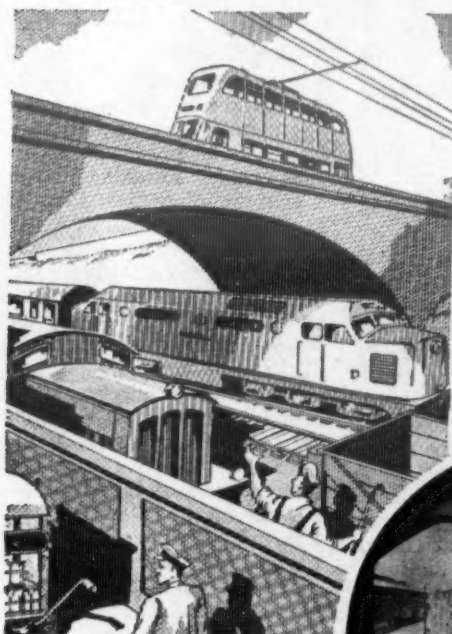
OVER more than two decades the former Great Western Railway equipped its principal routes with its automatic train control which warns drivers of the state of distant signals. Between Fenchurch Street and Southend the London Midland and Scottish Railway installed the Hudd system for the same purpose. For British Railways a third automatic warning device has been evolved and shown to be reliable; it combines the best features of both and is available for universal application. It will be described next week in detail at a meeting of the Institution of Railway Signal Engineers. This system was approved in April, 1956, after trials between Kings Cross and Grantham. The production equipment has shown its reliability and the first equipment will go into the main lines from London to Edinburgh via York, from London to Glasgow, Liverpool and Manchester, between Glasgow and Edinburgh via Falkirk, from London to Ipswich and Norwich and from London to Bournemouth. The British Transport Commission is accelerating provision of this equipment as far as the supply position permits. Contracts worth £500,000 have already been placed and 2,000 sets of track apparatus and 2,000 engine equipments should be delivered this year. Some 1,300 route-miles and 10,000 locomotives are to be fitted at the latest by 1962.

Colour Lights

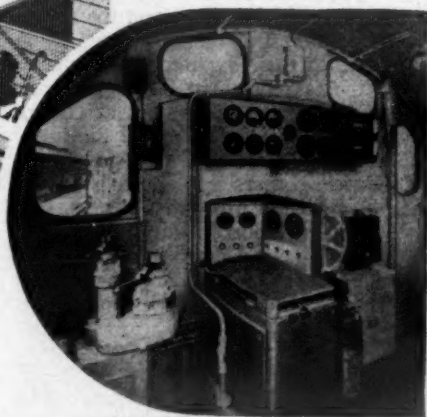
WHEN all is said and done, however, a.t.c. equipment can be expected only to be of possible assistance in some 10 per cent of accidents. In truth the general improvement of signalling under modernisation is much more likely to have an influence on the incidence of failures and untoward incidents. Some £150 million is being spent on new and improved signalling and communications and this will provide new power signal-boxes, for the modernisation of old ones and for the extension of colour-light signalling over considerable mileages, with extension of track circuit protection elsewhere. Much has already been done in a process of constant improvement, to a degree not even realised by railwaymen. For example, there were only 3,000 colour-light signals in 1938; today's figure is roundly 10,000. It may be noted that there is no place in British signalling practice for the use of searchlights, beamed tail lamps, radar equipment and other proposals which have been canvassed in the lay press recently and for the very good reason that on curved multi-track railways with complex junctions such devices could lead to chaos rather than promote accident-free working. Further railway safety will derive from the 20,000 safer and more comfortable steel coaching vehicles equipped with Buckeye couplings which will be in service by 1962 in replacement of 25,000 old ones. New motive power will also, no doubt, play a beneficial part. Coming back to the present, however, although it is true that the latest Ministry report on railway accidents detects an increased trend towards accidents caused by failure of operating staff (although not in respect of disregard of signals, where figures have improved) yet nevertheless the fact that no passengers were killed in train accidents in the years 1949, 1954 and 1956 shows clearly that we are not here dealing with some deep-rooted malaise of British Railways or a wholesale failure of its men, equipment and methods. The general standards of railway safety in these islands are high and well maintained.

(Forthcoming Events appear on page 6)

ELECTRICAL EQUIPMENT



SERVES
THE
INDUSTRIES
OF THE
WORLD



Driver's cab of a BTH 1000 h.p. diesel-electric locomotive.

IN transport undertakings at home and overseas, the initials BTH are recognized as a symbol of the finest in electrical equipment—a guarantee of proved performance.

Electric and diesel-electric locomotives
Electric equipment for multiple-unit trains
Electric equipment for trolleybuses
Speed indicators and mileage recorders
Sub-station equipment
Track-sectionalizing equipment

BRITISH THOMSON-HOUSTON

THE BRITISH THOMSON-HOUSTON COMPANY LIMITED
RUGBY ENGLAND

an A.E.C. Company.

A3883

MODERN TRANSPORT has an arrangement with Reuter's Trade Service whereby publication is made in this newspaper of all essential news from all parts of the world concerning traffic and transport by rail, road, sea and air and allied interests.

IMPROVED OUTLOOK FOR COACH PASSENGERS

Some Features of the Panorama

PLAXTON-BODIED RELIANCES FOR S.U.T.

FORMALLY introduced on January 31 when the Lord Mayor of Sheffield, Alderman A. Ballard, named *Panorama Pioneer* the first of six coaches for Sheffield United Tours, Limited, the 36-seat Panorama body built by Plaxtons (Scarborough), Limited, for mounting on underfloor-engined chassis—it employs in this case the A.E.C. Reliance—embodies a number of features calculated to make it particularly attractive to long-distance tour operators. These were the results of ideas put forward by Mr. Ben Goodfellow, general manager of S.U.T., and taken up by Plaxtons which has modified its Consort body design to that purpose.

The most striking feature of the vehicle viewed from the outside is the size of its side windows. The number of pillars has been almost halved and the three main windows each side measure 6 ft. 8 in. by 2 ft. 8 in. The benefit from the passenger viewpoint will be obvious. All the main windows are fixed and reliance is placed on the ventilating and heating system, which is, in fact, most comprehensive. There are three Clayton S12 under-seat heater units and the same company is responsible also for two Clayton De Wandre

blower units. One is mounted at the forward end of each light luggage rack. They draw fresh air from a large roof intake immediately behind the front dome. Pressure ducting carries the air the full length of the windows and outlets in this ducting direct the air on to the glass. A positive means of controlling the air flow is by a pair of butterfly valves in the roof trunking. These can close the intake completely.

Further ventilation is provided by two Key Leather reversible fan units which are fitted in the centre of the roof fore and aft in the coach, while there are four Weathershields three-way opening lift-up panels in the roof. These aluminium alloy units are filled with translucent plastics and similar material is employed to make the twin panels blended in the front dome. There is a 5-in. rise in the floor of the coach from front to rear and this means that the rear wheel arches are cleared without their protruding into the coach. The main door is right at the front of the vehicle on the

polished timber joinery and matching Formica inlays. Finishers of the latter are used for the four roof openings and the insert of the parcel rack retaining section is also Formica. The large windows are Triplex 9/32 in. toughened glass and 1/4 in. toughened glass by the same manufacturer is used for the large single panel Percy Lane windscreens and quarter glasses. Other fittings to which reference may be made include C.A.V. headlamps, L.E.P. sidelamps, Marshall spot and fog lamps and Hella rear lamps. The Wilmot-Breeden winking traffic indicators have Ericsson flasher units and the interior lights, bell pushes and wiring are supplied by Happich.

Composite Construction

The full front 30 ft. by 8 ft. body is of the well-known Plaxton composite method of construction, using a large steel and alloy content. The cross bearers are double flitched with 3 per cent nickel steel flitch plates, and steel gussets to ensure rigid fixing to the side pillars. The main floor members are in light-weight aluminium alloy section extending the length of the seating area in one piece, and so positioned that they directly support the gangway pedestals of the seats.

The body panels are of aluminium, the roof joints being lapped and sealed with cover mouldings, bedded on Prestick compound, using stainless steel screws. The side panel joints are covered with rust-proofed slip-on moulds, with anti-

drum rails fitted as necessary. All decorative mouldings are of Plaxton exclusive clip-on design, giving a clean and smooth finish, devoid of screen heads. The valance tubes are recessed and easily detachable and the whole of the body skirt and wing edges are protected by polished alloy finishing sections. The exterior mouldings are supplied by Reynolds-Tube Investments and the cellulose is by Vulcan Products.

Exhaust Brakes

The A.E.C. Reliance chassis is of the standard type with five-speed gearbox and the AH470 7.685 litre engine, which is the larger of the two available in this chassis. Besides the Clayton vacuum triple braking system it has also hand-controlled Clayton-Oetiker exhaust brakes. This supplier is responsible too for the 24-point automatic chassis lubricators.

Inviting the Lord Mayor of Sheffield formally to launch the fleet of Panorama coaches, Mr. E. L. Taylor, chairman of Sheffield United Tours,



Mr. E. L. Taylor, chairman of Sheffield United Tours, Limited, and the Lord Mayor of Sheffield (Alderman A. Ballard) at the naming of "Panorama Pioneer" on January 31



The first of six A.E.C. Reliances with Plaxton Panorama 36-seat bodies for Sheffield United Tours showing the marked effect achieved by the very wide side windows

nearside, while the emergency door, which can also be used for normal purposes on the Continent when the coach is being driven on the right of the road, is behind the offside rear wheel arch between the last and last but one pair of seats.

Ingenuous Courier's Seat

All the 36 seats have separate cushions of latex foam, which is used also for the squabs and neck rolls. The trimming is Lister moquette and the seat arm trimming is I.C.I. p.v.c. cloth. A similar cloth, this time Armourite, is used for interior linings. Between the two rear pairs of seats is an ingeniously contrived cabinet which will be used for serving hot and cold drinks. While the seats are not adjustable the tubular footrests with which each is provided can be set in two positions and right at the front of the coach beside the driver's seat is a most engaging seat which the courier will use on the Continent. This has two positions and in the lower one it is possible for the courier to sit comfortably below the level at which he would obstruct the forward view of the passengers on the left-hand side of the coach. On the back of the seats is a combined spring-loaded glove compartment and folding table. The seats are mounted on cast alloy pedestals on the gangway side and on alloy rails on the body side.

The window pilasters and sill capping are in burnproof Rockite plastics to tone with the highly

Limited, paid tribute particularly to Plaxtons, Triplex and Mr. Goodfellow, who had between them been largely responsible for the production of this new coach which could assuredly be compared with anything that Continental operators had and which, by the end of the season, would have covered something of the order of a million passenger-miles. Alderman Ballard said that he was specially glad to undertake this out-of-the-ordinary task because he felt that the growth of coach touring was also symbolic of the rising standard of living in the country and that was something that all wanted to see. He felt moreover that the opportunity for travel which such tours afforded represented equally a chance for improving international understanding.

After the ceremony the guests travelled in *Panorama Pioneer* and *Panorama Princess*, the second of the fleet, to Hathersage the climb up over the hills and the steep descent to that village giving an excellent opportunity to test the comfort of the coaches and also to hear the distinctive note of the exhaust brake as we wound our way down the hill. It would have been jolly if use could also have been found for the Lucas Fanfare horns mounted prominently on the front dome but such is rarely done in Britain since the average British driver finds it quite unnecessary and we must, we suppose, await some Continental expedition for its joyous note.



The
choice
of the
Passenger
Transport
Industry

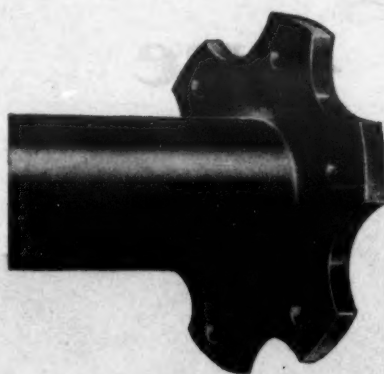
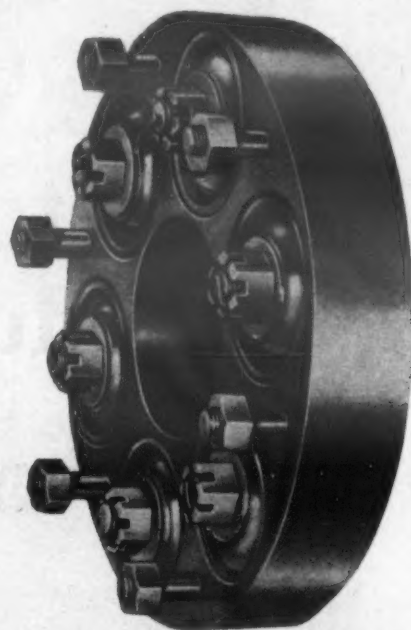
**Connolly
Leather**

CONNOLLY BROS (CURRIERS) LIMITED

CHALTON STREET · EUSTON ROAD · LONDON N.W.1

TELEPHONE: EUSTON 1661-5

the toughest
shock-absorbing
coupling yet
devised to meet
modern needs



How much rubber... what kind of rubber... what static torque, what dynamic torque will the coupling have to withstand...? LAYCOCK ENGINEERING have all the answers, because they have been anticipating future demands since the 1930's. When the suggestion of increased bhp from the same litrage keeps coming up, LAYCOCK engineers are not caught unawares—the appropriate coupling exists for every newly designed vehicle, because LAYRUB designers are there at the design-board stage, anticipating the future.

LAYRUB
flexible couplings

The LAYRUB coupling illustrated above is in the 'six-six' range and meets the demands for a coupling having a high torque capacity where space is restricted. This type is capable of very heavy duty, and is suitable for any application which needs little articulation, but where misalignment must be accommodated. It has been very successfully employed in marine drives, locomotives, railcars, and heavy tractors.

Member of the
Birfield Group

Enquiries to
LAYCOCK ENGINEERING LIMITED
MILLHOUSES · SHEFFIELD 8.
Tel: Sheffield 74411

LORRY—BUS—COACH

Warning to C-Hiring Users

IF the prevailing abuse of C-hiring was not discontinued, said Mr. Alex. Robertson, Scottish area deputy licensing authority in Aberdeen on January 29, he would consider initiating proceedings against both the owner of the C-hiring disc and the person letting the vehicle for hire under illegal circumstances. His decision followed an application by Mr. W. G. Cruickshank, of Aberdeen, for four vehicles under an A-licence for the carriage of general goods mainly in Scotland. He was prepared to surrender two special A-licences and cease C-hiring operations. Mr. Robertson then said Mr. Cruickshank had been C-hiring illegally. He was satisfied, however, that the applicant was innocent of a deliberate intention to break the law. He was prepared to issue short-term licences to those who made applications for A- or B-licences to regularise their operations.

Attendance Bonus Rejected

ATTENDANCE bonuses are not to be granted to bus drivers and conductors, Newcastle upon Tyne Transport Committee has decided. Councillor Scott said that "bribery of this sort" was a bad principle. It was stated that attendance bonuses were authorised in Manchester and Glasgow.

London Bus Wage Claim

ON Monday of this week a delegate conference of London busmen agreed to Mr. Frank Cousins's suggestion that the Transport and General Workers Union should ask the Minister of Labour to arrange for the Industrial Court to arbitrate on the pay claim rejected by the London Transport Executive. The T.G.W.U. has notified the L.T.E. of its proposal. The T.G.W.U. reserves its right to reject the award and presumably the L.T.E., if it accepts the proposal, would do the same. Earlier, when London Transport suggested arbitration it was with the suggestion that an award would be accepted as binding.

U.S. Trucking Joins Big Business

FIRST United States road trucking business to install an electronic computer (MODERN TRANSPORT, January 25), the MacLean Trucking Co., Incorporated, of Winston-Salem, North Carolina, has another and even more notable first to its credit, having placed its stock for public dealing on the New York Stock Exchange. The issued common stock of the company is at present

1,282,500 \$1 shares—quoted at \$9.12 per share. Operating revenues, with those of subsidiaries, totalled \$31 million last year.

North Western Acquisition

OWNERSHIP of Altrincham Coachways, Limited, has passed to the North Western Road Car Co., Limited, but its business will continue to function as a separate entity under the management of Mr. D. S. Hall, who joined it 10 years ago, and under the title of Altrincham Coachways, Limited, operating its own fleet of



An Atkinson L1786 eight-wheeler recently delivered to Cyprien-Fox (Transport), Limited, has Goodyear 9.00 by 24 tyres, cab heater and demisters; right, a Leyland Comet articulated vehicle of Northern Ireland Trailers, Limited, on the outskirts of London

about 10 cream and blue coaches, and its own excursions, tours, express and private-hire facilities. Plans for the future include seeking authority to operate additional day and half-day tours.

Railway Takes Aberdeen Parcels

JUMPING in after Aberdeen Corporation Transport had withdrawn its parcel delivery service in the city on February 1, British Railways introduced facilities with its own cartage vehicles, charging 9d. for parcels up to 28 lb., and has thereby incurred the wrath of local hauliers. R.H.A. members complain that the charge is ridiculously low and that other hauliers were available to undertake this service. They intend to take

action when B.R. licences come up for renewal in April. Comment from Mr. J. W. Barr, district traffic superintendent of British Railways, was: "The criticism of a lot of people is that railway rates are too high. It is refreshing to hear that they are too low. If we have cartage facilities I see no reason why we shouldn't be employed on work of this kind. After all, what could be more convenient than using British Railways who have parcel delivery vans going out twice a day to every corner of Aberdeen." B.R.S. has a parcels branch in Aberdeen.

Extent of B.T.C. Bus Subsidy

AFTER a special meeting of the Yorkshire area Transport Users' Consultative Committee on January 28, to discuss the threatened closure of the Clayton-Yew Green circular and the Wilsden-Cullingworth services of Hebble Motor Services, Limited, the chairman, General Sir Roy Bucher,



announced that it had been decided to pass the case, with evidence, minutes and observations to the Central Transport Consultative Committee, the next meeting of which is due in March. The services referred to were put on to replace the Bradford to Keighley and Halifax railway services. Sir Roy said that the subsidy under which they were maintained was not one the Yorkshire area committee could settle because of its countrywide repercussions, and it could only be referred to higher authority.

He indicated that in the last 2½ years for every fourpence paid by passengers on the services in question, the B.T.C. had paid 2s. 7d. Since the subsidised services were introduced in May, 1955,

until October last year, passenger receipts had been just over £1,000 and the subsidy had totalled £7,793. Referring to the objections raised, Sir Roy said the committee had listened with sympathy and with some degree of comprehension of the difficulties. They had come to the conclusion that the objectors had not been very courteously treated in the manner in which the possible withdrawal of the bus services had been conveyed to them.

Sad Tale of Dublin Radio Taxis

RADIO-EQUIPPED taxis owned by Ryans Car Hire, Limited, in Dublin are an innovation which has been in operation less than three months but during that period the number of bogus calls received (allegedly at the instigation of other taxi owners) and miles covered have reached quite extraordinary figures. Since November the total wasted miles covered are estimated at 21,484 and bogus calls at 2,795. The company is considering taking action for an injunction to restrain the usage of public telephones in making bogus calls. It complains that the public is being deterred from making genuine calls by the fear that they will be ignored as bogus. A Belfast car hire firm which pioneered radio cabs in Dublin had already abandoned the venture, having experienced comparable difficulties.

A.R.T.C.O. to be on Non-Profit Basis

DIRECTORS of A.R.T.C.O., the hauliers' group, have decided that its activities could be more effectively accomplished by a company limited by guarantee, i.e. non-profit making and rather on the lines of an association, and steps to this end are in progress. It is proposed to change the name of the present company to "Transport Associates, Limited" and immediately thereupon to incorporate a new company, limited by guarantee, under the name "Associated Road Transport Contractors, Limited by Guarantee." The new company will be run very largely on the lines of an association and the existing directors will become directors of the new A.R.T.C.O. until the first annual general meeting of that company when they will all retire, and members will have the right to make their own selection as to the new board. As a company limited by guarantee, there will be no share capital, but members will be required to pay an entrance fee (probably 20 guineas) and an annual subscription, the same as at present, designed to cover running expenses. The only further liability of a member in the event of a liquidation would be the payment of a sum not exceeding £1.

As soon as the new Associated Road Transport Contractors commences to function, Transport Associates, Limited (being the old company) will proceed to voluntary liquidation, when it is anticipated that shareholders will receive a distribution of at least 15s. for every £1 share they held. Official notices of the necessary extraordinary general meetings will be sent out to all members very shortly.

R.H.A. Code of Conduct

THE national council of the Road Haulage Association has agreed to a request from the long-distance hauliers committee that it be reconstituted as the long-distance hauliers functional group. The long-distance committee wants to publish a directory of long-distance hauliers, inclusion in which would be restricted to members who had subscribed to a code of conduct. It is felt that the right to decide what names should be included and to delete names should the code of conduct not be observed could more appropriately be delegated by the national council to a group rather than a committee. The national council has also approved a code of conduct for long-distance hauliers.

Text of Code

The full text of the R.H.A. code follows:
Rates paid shall be those generally recognised as fair for the traffic and destination, and shall be shown in a confirmation note in a sealed envelope to be handed to the driver at the time the collection notes are received, or posted to the carrier not later than 24 hours after load has been collected. Save in exceptional circumstances, commission deducted on account of sub-contracting shall not exceed 10 per cent of the rate charged by the main contractor to the trader whether the traffic is obtained direct from the trader or not. Where ancillary services are provided for the sub-contractor they should be itemised and the charges should be reasonable. Settlement of accounts shall be made by end of next month following receipt of invoice and supporting documents. Members shall not solicit traffic previously carried on behalf of another haulier member of the association or accept any such traffic at a lower rate than the prime rate to the trader. Traffic shall be sub-contracted on the terms of the R.H.A. conditions of carriage for the time being in force of which every main contractor and every sub-contractor shall be deemed to have notice. Provided that every sub-contractor shall be entitled to have the benefit of any term in the contract for carriage of the traffic as between the trader and the main contractor which is more favourable to the sub-contractor than the provisions in that respect of the R.H.A. conditions of carriage which in such case and to that extent only and for the purpose of that transaction only shall be deemed to be amended accordingly.

Members who are convicted of persistent and flagrant breaches of statutory regulations may be treated as being in breach of the code of conduct.

In this code main contractor means the haulage contractor who contracts direct with the trader for the carriage of the traffic.

"Trader" means the person (not being a person carrying on the trade or business of carrying or arranging for the carriage of goods for hire or reward) who has contracted with the main contractor for the carriage of the traffic.

"Prime rate" means the rate charged by the main contractor to the trader before deduction of cash or any other discount.

In the event of any dispute arising as to the meaning of this code, the decision of three members of the long-distance hauliers' committee of the R.H.A. (not being in any way concerned in relation to the nature of the dispute) shall be conclusive and final and binding on all parties.

Rear Lights on Projecting Loads

FROM October 1 an extra rear light must be carried, during the hours of darkness, not more than 3 ft. 6 in. from the extreme rear of any load which projects more than that distance behind the normal rear lights of a road vehicle. The regulations also require an extra rear light to be carried at night not more than 12 in. from the outer edge of any load which projects more than 12 in. beyond the side of the vehicle or any trailer. These extra rear lamps must be kept properly trimmed, lighted, and in a clean and efficient condition and must be visible from a reasonable distance. In the case of vehicles carrying fire escapes and of land or agricultural tractors on which agricultural implements are mounted, these requirements apply with the substitution of 6 ft. for each reference to 3 ft. 6 in. The new order is entitled the Road Vehicles Lighting (Projecting Loads) Order, 1958, and the regulations are similarly entitled.

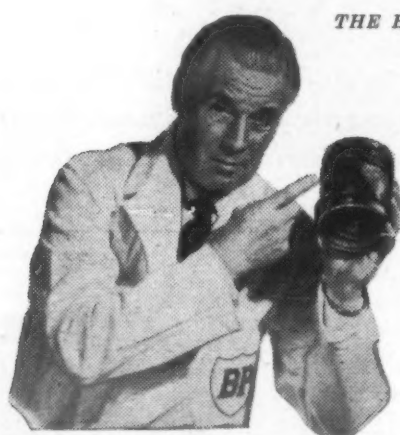
Bus and Coach Developments

Thames Valley Traction Co., Limited, applies to combine Service 1 (Maidenhead-Reading) and Service 10 (Reading-Newbury).

Western S.M.T. Co., Limited, seeks revision of its services between Greenock and Port Glasgow.

Garnock Valley Motors, Limited, Kilbirnie, proposes a stage service between the Fudston and Milton housing schemes via Kilbirnie Cross.

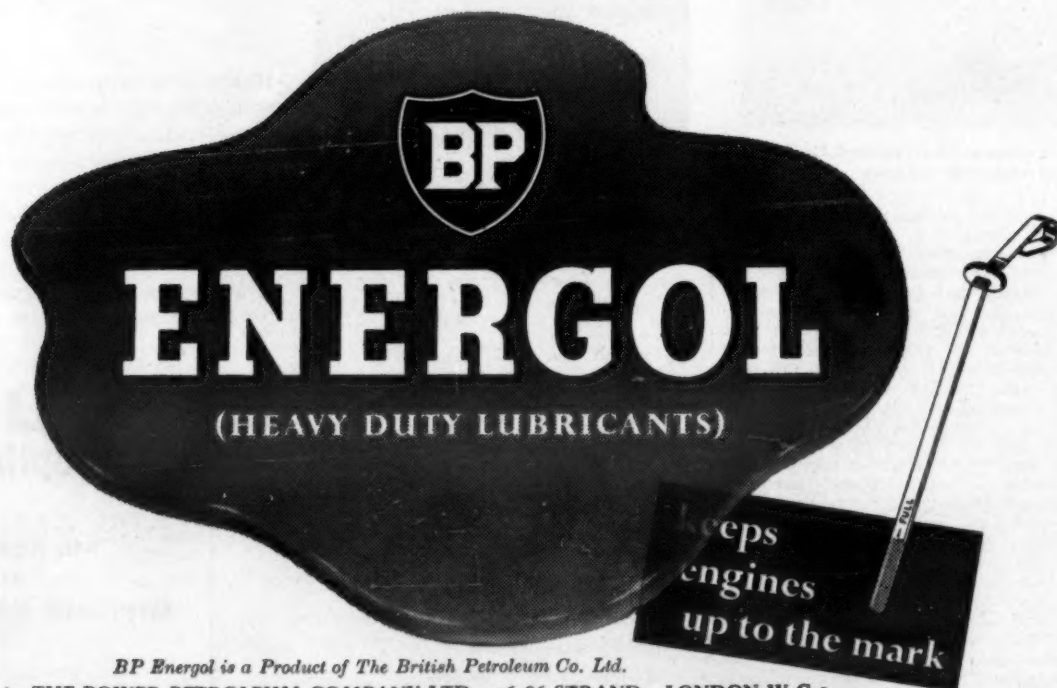
A licence has been granted for an hourly Trent-Barton express service between Derby and Nottingham (MODERN TRANSPORT, August 17, 1957) on which one-man operation has been proposed.



THE BP RESEARCH STATION ENGINEER SAYS—

"The operating temperature of pistons in modern high speed road vehicle diesel engines necessitates the use of an oil with a high degree of resistance to the formation of lacquer and varnish deposits which cause piston rings to stick in their grooves. Ring sticking is the most potent cause of loss of engine efficiency and is the governing factor in the economic operation of the engine between overhauls."

Don't let overhaul costs
reduce your overall
profits
—use



BP Energol is a Product of The British Petroleum Co. Ltd.

Distributed by THE POWER PETROLEUM COMPANY LTD. 76-86 STRAND, LONDON W.C.2

Branches and Distributing Depots throughout the country.

MODERN AIRWAYS and COMMERCIAL AVIATION SECTION

FOR LOCAL SERVICE

New Version of the Viscount

EIGHTEEN-MONTH DELIVERY POSSIBLE

WITH its production of Viscount 700 series proceeding steadily at Hurn, Vickers-Armstrongs (Aircraft), Limited, last week announced another version—the 790—which has been termed the Local Service Viscount. As its name implies, it has been developed to meet the requirement for a fast modern airliner capable of providing competitive yet economical service over relatively short inter-city air routes. Its specification is already being closely studied in the United States and a three-man team from Vickers is there at the present time, while the new Viscount also has applications in other parts of the world.

Problems of Local Service Operation

The fuselage of the Local Service Viscount is similar to that of the 700 series aircraft but with a redesigned interior cabin layout permitting greater seating capacities, from 54 passengers in the standard version to 65 passengers in a high-density layout. The wing structure is strengthened to permit higher speeds at low altitude—it is in fact that of the 800 series—and the Rolls-Royce Dart 506 turboprop engine has been chosen in order to give the best combination of take-off and climb performance, cruise speed and economy. Quick turnaround features built into the aircraft include folding air steps, provision for additional batteries for internal engine starting, propeller brakes on the two port engines and the starboard inner engine and, in the four abreast seating layout, an exceptionally wide gangway. Deliveries of this aircraft can be made in mid-1959.

For local service operation on the North American

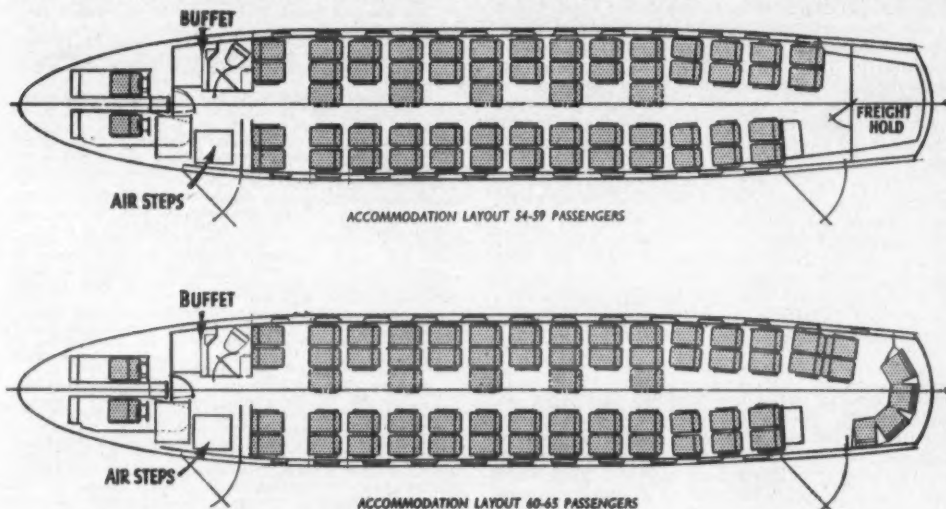
and light refreshment containers and the hydraulic emergency equipment.

Layout

The main passenger cabin is furnished to North American standards with durable trim materials in a variety of colours. The standard version accommodates 54 passengers and includes 13 rows of four-abreast seat at a minimum pitch of 34 in. This version has the rear freight hold immediately forward of the aft pressure bulkhead (a feature of most existing Viscounts) in addition to the large underfloor forward freight hold. An alternative version features lounge-type seating in the rear cabin and thus provides a total seating capacity for 60 people while retaining a four-abreast seat layout in the main passenger cabin.

The Local Service Viscount incorporates the revised cabin trim-line evolved for the 800 and 810 series Viscounts, providing greater interior width for five-abreast seating. If five-abreast seating is used in the Local Service Viscount the capacities of these two versions are increased to 59 and 65 passengers respectively. Aisle width is 35 in. in the four-abreast layout, and with five-abreast seating is reduced to approximately 16 in.

Because the aircraft will normally operate at a lower altitude than previous Viscounts, the cabin pressure differential has been reduced from 6.5 to 4.5 p.s.i., resulting in sea level cabin conditions at 10,000 and a cabin altitude of 7,000 ft. at 20,000 ft. This change in differential pressure more than compensates for the increased number of pressurisation cycles completed during the life of the aircraft. As



Two layouts of the Local Service Viscount showing also the alternate three-and-two arrangement to increase the capacity in each case by five

pattern, a specialised aircraft is required. It must be capable of making a series of short flights—averaging, possibly, 100 miles or less—without intermediate refuelling, without ground servicing at transit stops, and with a minimum of traffic handling, in order to achieve quick turnarounds and maximum utilisation. Because of short route distances and, possibly, congestion of airways, the local service air liner must be capable of cruising at low altitudes without limitation of cruising speed. The majority of new aircraft cannot operate at maximum cruise speed below levels of 20,000 ft. or more, and while this limitation is acceptable on most medium and long routes, it would have an

already indicated the wing structure has been specially strengthened to permit high cruising speed to be achieved at lower altitudes and to ensure that the structure will not suffer from the more frequent gust loads encountered at the lower cruising levels.

Quick Turnround

At so-called whistle stops No. 4 engine is normally kept running, and this provides sufficient electrical supply to restart the other engines. If, however, all four engines have been stopped, the increased battery capacity makes possible internal restarting of all engines. This procedure might be

LOCAL SERVICE VISCOUNT

POWERPLANT:
Four Rolls-Royce Dart 506 propeller turbine engines each of 1,540 e.h.p. (1,400 s.h.p. plus jet thrust) driving Rotol parallel-planform propellers of 140 activity factor.

DIMENSIONS:
Length, 81 ft. 10 in.
Height, 26 ft. 9 in.
Span, 93 ft. 11 in.

WEIGHTS:
Maximum take-off weight, 61,500 lb.
Maximum landing weight, 58,500 lb.
Zero-fuel weight, 50,000 lb.
Weight empty, 37,240 lb.

CAPACITIES:
Seating capacity (standard), 54-59.
Seating capacity (alternative), 60-65.
Freight hold capacity (standard), 399 cu. ft.
Freight hold capacity (alternative), 174 cu. ft.
Maximum payload (standard), 11,620 lb.
Maximum payload (alternative), 11,535 lb.

PERFORMANCE:
Maximum cruise speed, 320 m.p.h.
Range with full payload plus reserves for 115-mile diversion and 45 min. holding at 5,000 ft., 800 miles.
Take-off distance to 50 ft. (I.S.A. 61,500 lb.), 4,850 ft.

adverse effect on both block speed and economy over very short sectors.

The combination of frequent landings, high cruising speed at low altitudes and intensive utilisation demands a rugged aircraft with proven structural characteristics. Proven engines and systems are also an essential, as the economics of local service operation will not permit an extensive period for the elimination of recurring faults when the new aircraft enters service.

Size of Airports

A further operational requirement is that the local service air liner's take-off and landing performance must be matched to the size of airport available on the secondary and feeder-line networks. The majority of local service operators is today operating obsolete or obsolescent piston-engined equipment, and a switch to turbine power is held to be inevitable and it is argued that in such circumstances the turboprop air liner is the only logical choice of equipment for such routes.

Consideration over the past two years of these and other problems has given birth to the Local Service Viscount. The design formula on which it is based offers a proven airframe-engine-systems combination with full after-sales support and an operational background of one million hours flown in airline service. The structural design allows for up to five 100-mile sectors without intermediate refuelling, a genuine 300 m.p.h. cruise at 10,000 ft. and full provision for quick turnround.

The operating cost characteristics are, of course, well established. The machine is able to operate with full payload from the 5,000 ft. runways found at typical secondary airports and its maker argues that on local service routes the effect of the Viscount will be even more marked than it has been on main routes because the contrast with existing services is greater.

The flight deck embodies a two-crew layout with a supernumerary seat for a third crew member. The forward vestibule houses the hydraulically operated folding air steps, a toilet, a space for coffee

required at transit stations in the event of a delay resulting from, say, the late arrival of a connecting service or the loading of a bulky piece of freight. At terminal stations starting would be performed in the normal way with a 28 volt d.c. trolley.

Refuelling would normally be required at terminal stations only, using high-rate underwing pressure refuelling. Overwing refuelling points are also provided for use at secondary airports not equipped with pressure fuelling facilities. Neither steps nor ladders are required for ground handling of the Local Service Viscount. The passengers embark and disembark by means of the folding air steps carried inside the forward entrance door. Windmilling of propellers on this side of the aircraft is prevented by brakes on Nos. 1 and 2 engines. The belly hold freight doors are accessible to the loading crew from ground level on the right-hand side of the fuselage; a propeller brake is therefore provided for No. 3 engine also.

Reasons for Engine Choice

The Dart 506 engine was chosen in preference to later and more powerful Darts for a variety of reasons. In the first place, the 506 was felt to have a greater background of experience under arduous and long-life operating conditions most closely resembling those of local service. The lower cost and lighter weight of the Dart 506 were further considerations. Another point in favour of the Dart 506 is that it uses no water-methanol for power restoration below 80 deg. F., so that in practice the Local Service Viscount will rarely require replenishment of its water-methanol tanks at transit stops; this helps to keep the turnround time as short as possible and reduces the ground equipment required at transit stations. The propeller is the Rotol high-activity parallel planform type developed for the Dart 510. As the Dart 506 has higher propeller r.p.m. than the 510, the Local Service Viscount take-off thrust approximates to that of a 510-powered Viscount, a feature which, of course, has considerable influence on the ability of the aircraft to use confined airports.



Hush-a-bye Baby, up in the sky

You're in Air-India—do you know why?

Because it's the comfiest, scrumptious way

To travel to Sydney, Bangkok and Bombay

Fly to destinations throughout the Far East
in Super-G Constellations with luxurious slumberettes and sleepers

AIR-INDIA
International

66 Haymarket London W1 TRAFALGAR 4541 and in Manchester, Birmingham, Glasgow



Seat being fitted into 'Bus interior

ON-OFF, ON-OFF



The "Flexilant" Grip makes anything to which it is fixed, instantly and automatically attachable, detachable and replaceable. It is rigid and firm—self-placing and hygienic. It is simple, inexpensive and as long-lasting as the part to which it is fitted. Here is an example of its use—have you a similar need?

THE "Flexilant" GRIP

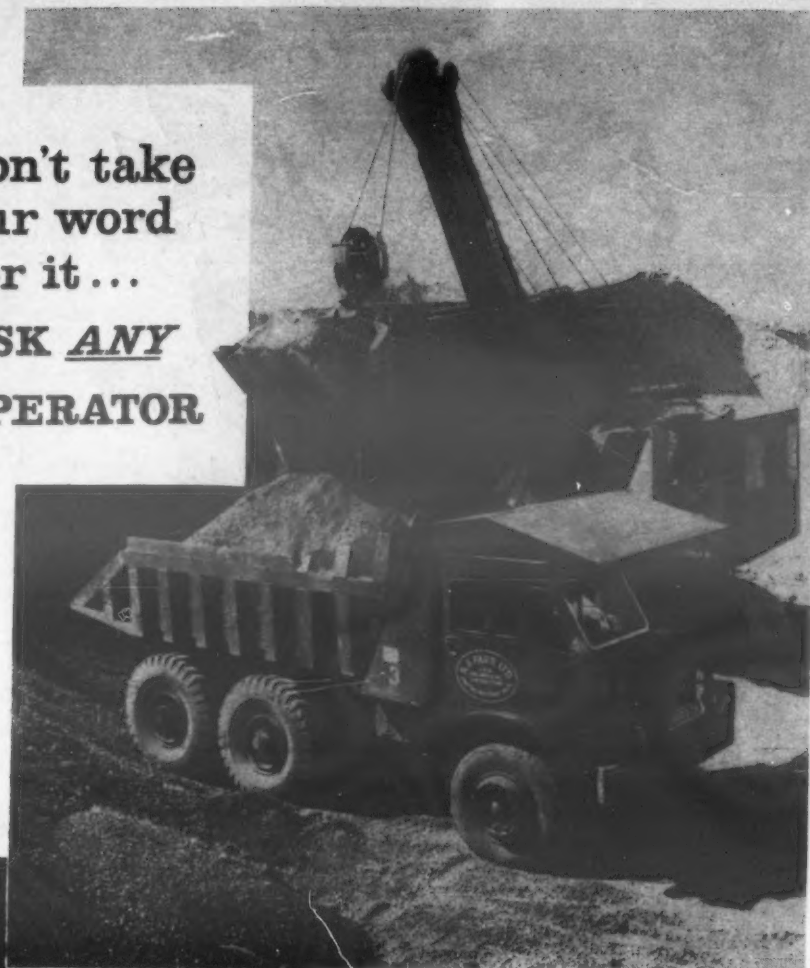
PROV. PAT. NO. 16783/55

can help your fixing problems

RUBBER BONDERS LIMITED • DUNSTABLE • BEDFORDSHIRE • ENGLAND

don't take
our word
for it...

ASK ANY
OPERATOR



Foden

DUMP TRUCKS

*-real gluttons
for punishment!*

There's confidence for you... but it's not without justification! We receive so very many repeat orders that we've no doubts about the dependability of these rugged Dump Trucks. We say they're the finest on the market—but let us put you in touch with a local operator. You can judge his enthusiasm for yourself.

Specification—Foden 6-Wheeled Dump Truck
Powered by a FD 6-cylinder, 2-stroke oil engine or the Gardner 6-cylinder oil engine, this tough truck is fitted with an 8-speed epicyclic gear-box and double-drive axles. The 9/10 cubic yard capacity (15-ton payload) steel body with cab canopy is tipped by heavy duty rapid twin hydraulic end gear. All metal half cab. This vehicle can be equipped with Bomford and Evershed "Sapper" Dozer blade hydraulically actuated.

London Sales Office: 139 Park Lane, W.1 Tel: Grosvenor 5932

FODENS LTD., SANDBACH, CHESHIRE. Telephone: SANDBACH 644 (12 lines) Telegrams: "FODENWAY," SANDBACH

DOSCO RATIONALISATION

Four Basic Divisions Set Up

A MAJOR reorganisation of Dominion Steel and Coal Corporation is announced by its president, Mr. Crawford Gordon, who is also president and general manager of A. V. Roe Canada, Limited, the holding company which now owns 76 per cent of Dosco stock. A. V. Roe Canada is a member of the Hawker Siddeley Group. The reorganisation involves realignment of some 23 individual Dosco operating companies into four basic divisions—mining, steel production, steel fabrication and manufacturing, and transport, and is essentially a rationalising move.

Besides producing basic steel and coal, Dosco also turns out a great variety of finished products in its plants across Eastern Canada from Newfoundland to Windsor, Ontario. These include many different kinds of wire products, from fencing to coat hangers, and such diverse items as screws and rivets, pipe, towers, bridges, railway coaches, rails and ships. Four companies are included in the new transport division: Dominion Shipping Company (Sydney, N.S.); the Essex Terminal Railway (Walkerville, Ont.); Sydney and Louisburg Railway Co. (Sydney, N.S.); and the railway operations of the Cumberland Railway and Coal Co. (Springhill, N.S.). The division is also responsible for dock and coal stockpiling facilities.

FIBERTHIN COVER FABRIC

Range by Fothergill and Harvey

UNDER the brand name Fibertin, a new range of cover fabrics based on nylon, Terylene or high-tensacity rayon coated with the plastics p.v.c. or neoprene has been developed by the new fabrics division of Fothergill and Harvey, Limited, 103 Mount Street, London, W.1. Many different types of Fibertin are available and these can be designed specifically to meet individual applications in the transport, public works and industrial fields. The new materials, which are produced by a method patented by the U.S. Rubber Company and have been successfully promoted in many industries in the United States, incorporate a special type of yarn and cloth construction giving them a much greater resistance to tearing than earlier coated fabrics of similar type.

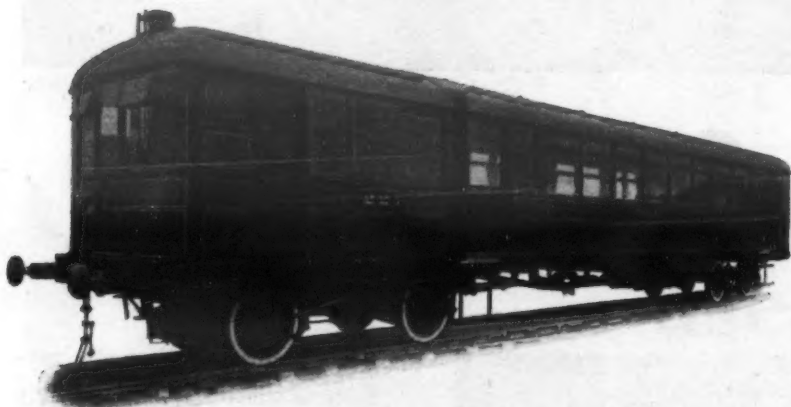
The principal advantage of Fibertin is its extremely light weight, which is stated to be about half that of flax canvas for the same use. Other advantages are retention of flexibility at extremes of temperature, non-absorption of water and high tear and tensile strengths. One of the most important developments has been the production of a translucent Fibertin, a unique quality in heavy-duty cover fabrics of great potentiality.

Oil found in initial test drillings at Langar and Bothamstall, Notts, by B.P. Exploration Co., Limited, gives rise to hopes of new deposits of commercial significance. Both the new wells are relatively near existing B.P. oilfields, from which the total production of crude oil in 1957 amounted to 82,000 tons.

Forthcoming Events

February 8.—Stephenson Locomotive Society (Scottish). Paper by Mr. A. M. Riley, "Engines that might have been." At 302 Buchanan Street, Glasgow, 2.30 p.m.
Stephenson Locomotive Society (North Western). Paper by Mr. R. M. Tomkins, "The Claughton Class of the L.N.W.R." At Manchester Geographical Society's Rooms, Deansgate, Manchester, 6.15 p.m.
February 10.—Institute of Transport. Branner Memorial Lecture by Air Commodore W. E. G. Mann, "Problems and Economics of Air Traffic." At 66 Portland Place, W.1, 5.45 p.m.
Institute of Road Transport Engineers (East Regional). Paper on "Battery Manufacture and Maintenance." At Houldsworth Hall, 90 Deansgate, Manchester, 7.30 p.m.
February 11.—Institute of Transport (Yorkshire). Paper by Mr. D. S. M. Barrie, "Transport Public Relations and Publicity—Some Current Problems and Methods." At Great Northern Hotel, Leeds, 6.30 p.m.
Institute of Transport (West Midlands). Paper by Major-General G. M. Russell, "Transport in Modern Times." At Control Tower Building, London Airport, 5.45 p.m.
Institution of Civil Engineers. Paper by Messrs. A. R. Collins and D. R. Sharp, "Designs and Construction of Concrete Roads Overseas." At Great George Street, S.W.1, 5.30 p.m.
Institution of Mechanical Engineers (Automobile). Paper by Mr. J. Sainsbury, "Air Suspension for Road Vehicles." At 1 Birdcage Walk, S.W.1, 6 p.m.
Institute of Road Transport Engineers (Midlands). Paper by Mr. W. P. James, "The Maintenance of Commercial and Passenger Vehicles." At Exchange and Engineering Centre, Stephenson Place, Birmingham, 7.30 p.m.
Aviation Forum. Paper by Mr. J. Stroud, "Over the Top." At Imperial Hotel, Elizabeth Street, S.W.1, 7 p.m.
Permanent Way Institution (York). Paper by Mr. G. C. Chaplin, "Level Crossings." At Railway Institution, York, 6.45 p.m.
February 12.—Institute of Transport (Irish). Annual dinner and visit of past president.
Institute of Transport (Southern). Paper by Mr. J. B. Burnell, "Some Aspects of Urban Road Passenger Transport." At Harbour Board offices, Southampton, 4 p.m.
Institution of Locomotive Engineers. Paper by Messrs. M. G. Burrows and A. L. Wallace, "Experience with the Steel Fireboxes of the Southern Region Pacific Locomotives." At Institution of Mechanical Engineers, 1 Birdcage Walk, S.W.1, 5.30 p.m.
British Institution of Radio Engineers (West Midlands). Paper by Mr. R. F. Armitage, "Industrial Applications of Radio Isotopes." At Wolverhampton Technical College, Wulfruna Street, Wolverhampton, 7.15 p.m.
Institute of Traffic Administration. Paper by Mr. A. T. Hills, "Costs for Management." At Caxton Hall, Westminster, S.W.1, 7.15 p.m.
Institution of Railway Signal Engineers. Paper by Mr. J. H. Currey, "The B.T.C. Automatic Control System." At Institution of Electrical Engineers, Savoy Place, W.C.2, 6 p.m.
Light Railway Transport League. Paper by Mr. J. Joyce, "The Worst in British Tramways." At Fred Tallant Hall, N.W.1, 7 p.m.
Institution of Electrical Engineers. Paper by the late Mr. G. H. Fletcher read by Mr. R. Ledger, "Electrification of British Railways." At Central Hall, Westminster, S.W.1, 6 p.m.
Stephenson Locomotive Society (London and Southern). Paper by Mr. D. W. Allen, "Canadian National Locomotives in the 1920's." At Caxton Hall, S.W.1, 6.45 p.m.
February 13.—Institute of Transport (Northern). Paper by Sir John Elliot, "Efficiency versus Cost in Public Transport. What is the Right Answer?" At Royal Station Hotel, Newcastle upon Tyne, 7 p.m.
Stephenson Locomotive Society (Midland). Paper by Mr. W. A. Willox, "Some Reminiscences of a Railway and Civil Engineer." At Grand Hotel, Bristol, 7.30 p.m.
February 14.—Institute of Transport (East Midlands). Papers by Mr. L. D. Holmes, "Relationship of Transport to Stock Investments," and by Mr. D. J. Alsop, "Some Aspects of Inland Waterways." At Railway Staff Training College, Derby, 6.30 p.m.
Institute of Road Transport Engineers (South Wales). Paper by Mr. R. P. Chilton, "Various Trends in Machining and Inspection Methods concerning the Manufacture of Heavy Commercial Vehicles." At South Wales Institute of Engineers, Park Place, Cardiff, 7 p.m.
Railway Correspondence and Travel Society (London). Paper by Mr. W. A. Smyth, "Early Bagnall Locomotives." At Railway Clearing House, Eversholt Street, N.W.1, 7.15 p.m.
Institution of Mechanical Engineers (Applied Mechanics). Paper by Messrs. O. N. Lawrence and R. D. Powell, "Application of Servo-Mechanism Analysis to Fuel Control Problems." At 1 Birdcage Walk, S.W.1, 6 p.m.
March 21.—Institute of Transport. Annual dinner. At Dorchester Hotel, W.1.

EXPERIENCE COUNTS!

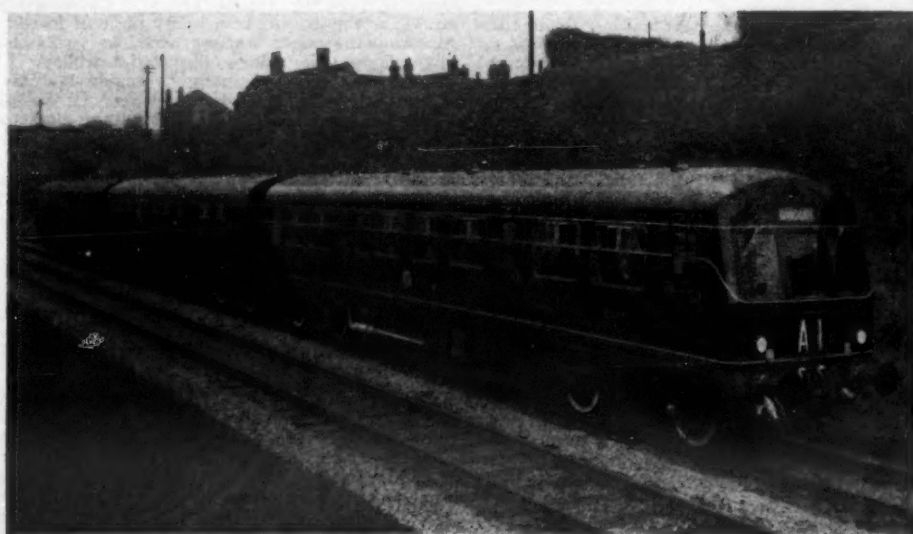


1927

Steam Railcar for the London
& North Eastern Railway

Diesel Railcar Unit for the North
Eastern Region of British Railways

1958



HEAD OFFICE: SALTLEY · BIRMINGHAM, 8

LONDON OFFICE: VICKERS HOUSE · BROADWAY
WESTMINSTER · S.W.1

RAILWAY MANAGEMENT

Organisation to Meet Conditions

By E. W. ARKLE, M.Inst.T., Director of Traffic Services,
London Midland Region, British Railways*

PERHAPS at no time in the history of Britain's railways have organisational changes been so general and so varied as they have been in the past few years and seem likely to be in the next few; therefore it may be apposite to set down a few notes on the subject at the present time, but I have no intention of producing a historical survey of the various doctrines and experiences which have befallen railway management, even in Britain, still less those of the world at large. To my mind such exercises are not relevant at the present juncture if only because nearly all the systems have been designed for an expanding industry with only other like systems to worry about; today's need is an organisation so designed as to meet today's transport conditions in Britain and designed to take advantage of such modern scientific attainments as the computer and the coming of atomic power.

Main Objects of Management

The term "manage" seems originally to have had some connection with the control of unruly horses and the later more general meaning fits in well with this simple derivation. A wild horse left to form its own habits is of no great use to mankind and no more is a business or even a nation if it is not guided, and preferably guided in such a way that it is hardly conscious of the guidance. If one seeks for a simple, yet all embracing definition of what is today meant by management, need one go much further than the word "leadership," which after all describes the essential feature of management of all kinds, or should do?

The objects of management may be analysed under the following main heads:

- (a) The formulation of ultimate aims and ideals for the undertaking.
- (b) The planning and provision of the means to attain these aims.
- (c) The immediate control of the various branches.
- (d) The safety and welfare of all the members of the undertaking.

So described, these headings would seem to be the duties of those at the top, but quite subordinate people can and do in these days of "consultation" have their part to play—or should have—and indeed there is no member of the staff today who can excuse himself from a share in these responsibilities. The day of autocratic control by a master mind of a mass of unthinking automatons in any business seems to be over, at any rate in this country.

Differences of Railway Management

One can now pose a second question, viz. how and why railway management differs notably from most other types. The first reason lies in the many controls imposed on our industry from outside. Railways have never been quite free to adopt their own aims and standards and still less can they do so today. The great modernisation scheme which we all believe in so fervently and which has already done so much to revive our spirits after many years of frustration, has unfortunately made the railways dependent on outside funds—not a good thing for independence of spirit—moreover it is now once again the object of an economy drive which has already cut out quite important parts of the original conception and delayed others. In a variety of ways, therefore, the long-term plans of the railways are much more subject to external influences than is the case in business generally. The same form of extraneous influence can be seen, however, in much smaller day-to-day matters, as for example in the cumbersome procedure now required for the closing down of unprofitable parts of the undertaking.

The second important difference is due to the widely scattered nature of the business. Leadership and control are not easy to exercise over hundreds of miles of scattered territory, especially when it is borne in mind that not only are the communities scattered but that many members of the staff nominally based on large centres, e.g. train staff, spend much of their time far away from control and have therefore of necessity to use a much greater degree of initiative than say a factory worker. Radio control and good communications can, of course, do much to eliminate this remoteness, if they and similar inventions are properly used.

Vast Size

Thirdly, there is the sheer vastness of the undertaking. There are few if any businesses in which a general manager (one of six) may have under his care something like 180,000 men and women, located in an area about 300 miles in length. Railway management therefore has to have, in addition to all the normal attributes of management, a special ability to endure outside interference, to get along with a minimum of day-to-day contact between those in control and those controlled, and to deal with very large numbers and types of individuals.

The last few years have seen the advent to the railway industry of so many eminent people from other fields of activity and there is a tendency nowadays to feel that anyone can run a railway. Railway management is not in fact merely a special branch of ordinary business management but something which demands qualities of experience, skill and leadership, as well as actual knowledge of the organisation to an extent unusual in other industries. It is curious also to note how many quite junior railwaymen who have been foolish enough to leave have advanced rapidly in other spheres of industry to a remarkable degree and this, too, may perhaps be set down as a tribute to the high standards demanded in the railway industry.

Special Needs of British Railways

But we must now turn to a third main question and consider for a time what are the rather special needs of today which were not so apparent in the prosperous years of railways. First and foremost we have to admit with Sir Reginald Wilson that the best railwayman of the future will probably be a transport man—one who will know as much about road transport at least as he does about rail and is prepared to face his rivals there with all the knowledge of their techniques as well as of his own which he can command. Nor will he be able to afford to neglect the activities and the economic

background of water transport whether by sea or canal, and the possibilities of air for the movement of both passengers and freight. Even the development of pipe lines, conveyors, gas grids, and all the other machinations for the avoidance of transport in the accepted sense must not be allowed to escape his notice.

But for the moment let us set this wider activity on one side and confine ourselves to the special needs of the modern railway manager. I would claim that the following qualities should be present in any candidate for management, as defined above: Strength of purpose; knowledge of the job; initiative; ability to get on with one's fellow men; and ability to delegate work. Most of these are general qualities which need no explanation though it may well be asked why emphasis is laid on ability to delegate work. The reason is that in our industry, more perhaps than in any other, the man who regards himself as indispensable can so easily block the whole progress of events. It must be clear that in an industry where there must be a constant flow of orders and instructions to quite remote parts the whole will suffer if such a flow is hindered. Yet this failing is perhaps one of the commonest to be encountered, springing as it does from a false idea of one's own importance, plus unwillingness to acknowledge any good in others. The empty desk may well be a far better sign of intense activity than one piled high with papers, and the same goes for a marshalling yard or a freight terminal. Sooner or later fate will catch up with the "indispensable" individual and when it does it will be to the detriment of the business and of those subordinates who have not been given a fair chance to exercise their skill and ability.

Ability to Mix

There are occasions today when the ability to mix with one's colleagues is misinterpreted as an acceptance of the lowest standard and it is a pity that this is so because no one can deny that two exactly similar people, otherwise equal in ability and brainpower, may achieve respectively much or little according as to whether or not they can get their fellow men to work smoothly with them. It is certainly not a matter of using Christian names or getting down to the level of the lowest in intelligence or habits. It is that almost indefinable ability to put oneself in the other man's place and yet preserve one's own which really counts. No amount of text books or courses in staff relations can really engender such an outlook, which is much more likely to be innate than implanted. The old requirement to be able to suffer fools gladly is today more urgent than ever, but it must be coupled with that of getting the very best out of all the staff committed to one's care.

It is perhaps the heading "knowledge of the job" which requires the greatest amount of explanation in relation to the circumstances of today. For the purposes of our discussion we must confine ourselves very largely to the traffic departments—operating, commercial and motive power, in order to cover the subject adequately. Not that there have never been managers of the highest type drawn from technical departments, particularly civil engineering and mechanical engineering, or from the legal side, but on the whole the majority in this country, unlike the European Continent, have graduated through "traffic." Let us take the three aspects of traffic separately.

Operating Knowledge

The operating manager must of course, first of all, be aware of the fundamental rules of safety as contained in the rules and regulations, the appendix and other documents. Great stress has always been laid on a thorough knowledge of these documents, if only because at whatever level he may be working such a manager must be ready at short notice to take charge of a situation demanding such knowledge whether for the purpose of clearing up a mess or dealing with the resultant detailed inquiries. No one could possibly quarrel with this requirement so long as it is not regarded as the sole qualification of an operating manager. If it is, then he is no better (or need not be) than one of his district inspectors.

Secondly, he must acquaint himself with the geography of his whole territory, be it a single station or several thousand miles of line with all its attendant junctions and sidings. Such knowledge can, of course, only be acquired through actual exploration of the territory concerned, assisted wherever possible by maps, line diagrams, lists of signalboxes, gradient charts and all the other numerous reference documents.

Confidence

Thirdly, he must obtain in the shortest possible time the confidence, based on personal knowledge, of as many as possible of the personnel who come under his control. The trust must be mutual and it must be based also on knowledge of the men's background, surroundings, both private and in the service, ambitions and idiosyncracies. This again takes time—the greater the numbers the longer the time. Here I feel it is most important to observe one principle, that of the organisational diagram, if only to maintain a sense of proportion and make the task humanly possible. The station master should (except in the case of the largest stations) know all his staff reasonably well; the district officer should know all his station masters very well indeed, as well as all his assistants and other key staff; the departmental chief should know all his district officers and as many as possible of their key staff and, of course, the general manager will know all the foibles and virtues of all his chief officers and those near to them.

It is fashionable nowadays, to talk of the remoteness of railway staff as something quite new and as though in some mysterious way they had lost direction by being out of contact with those at the very top. Personally I do not believe there is anything of importance in this view; it is much better for each man at any given level to have a chief at a higher given level whom he sees with sufficient regularity to know and be known fairly well and to leave it at that. There may be occasions when an even more distant sun than that which normally warms and cheers him flashes into his vision—there is no harm in that at all, but let that still be the rarity which gives such visitations a character of their own, occasions to be eagerly awaited and pleasantly experienced.

(To be continued)

* Abstract of a paper read on behalf of Mr. Arkle by Mr. J. Royston to the North Western Section of the Institute of Transport.

BOLTON'S COPPER PRODUCTS in Railway Engineering

STEAM LOCOMOTIVES

FIREBOX PLATES including Wrapper, Door, Throat, Side and Tube-Plates in de-oxidised arsenical copper suitable for welding.

SOLID AND HOLLOW STAY RODS.

TUBES—all sizes and gauges of copper tubes for locomotive boiler and other purposes.

ELECTRIC LOCOMOTIVES

BOLTON'S HIGH CONDUCTIVITY COPPER PRODUCTS are used extensively by the manufacturers of electric and diesel-electric locomotives for such purposes as field coils, armature coils and commutator bars of traction motors, generators and auxiliary machines and also for components of control equipment and pantograph wearing strips.

(Illustrated)
Bolton's Copper Plates used in the Greek locomotives manufactured by Breda Electromeccanica E Locomotive-Milan for the Greek Ministry of Transport



THOMAS BOLTON & SONS LTD

HEAD OFFICE:
Mersey Copper Works, Widnes, Lancs. Tel.: Widnes 2022. Grams: "Rolls, Widnes."
LONDON OFFICE & EXPORT SALES DEPT.: 168 Regent Street, W.1
Tel.: Regent 6427. Grams: "Wiredrawn Piccy, London."
WORKS: Lancashire: Widnes and St. Helens.
Staffordshire: Froghall and Oakmoor, Nr. Stoke-on-Trent.

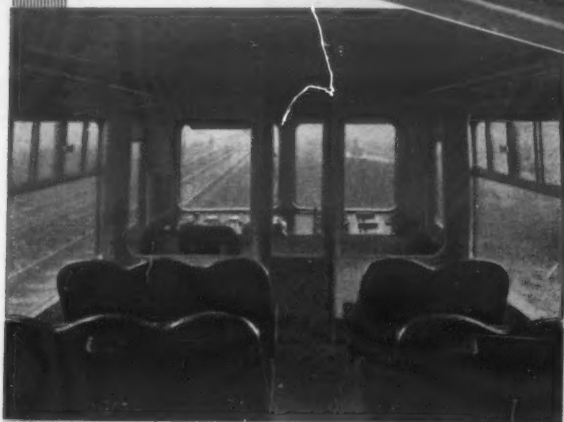


makers of Siemens-Martin steel tyres,
axles, solid wheels and disc centres
for railway locomotives, carriages and wagons
and tramway cars, also rolled steel rings

JOHN BAKER AND BESSEMER LIMITED

KILNHURST STEEL WORKS, Nr. ROTHERHAM

REGISTERED OFFICE: BRINSWORTH IRON AND WHEEL WORKS ROTHERHAM
LONDON OFFICE: 9 VICTORIA STREET WESTMINSTER SW1 Tel.: ABBEY 2813 & ABBEY 7320

CRAVENTHREE CAR DIESEL TRAINS
for
BRITISH RAILWAYSSecond class saloon looking
forward into drivers compartment.

Included amongst orders received for over 250 Diesel Railcars for The British Transport Commission's Modernisation Programme are a number of triple car units one of which is illustrated here.

CRAVENS LIMITED

SHEFFIELD

NEWS FROM ALL QUARTERS**Higher Insurance Benefits**

Payment of the higher retirement pensions and widows' benefits began last week and other national insurance benefits (for sickness, unemployment and maternity), together with industrial injuries benefits, also go up. Higher national insurance contributions have had to be paid from February 3.

Diesel Trains Accelerated

Accelerated timings were applied as from February 3 to the diesel services recently introduced between Darlington and Penrith. The throughout journey time between these points is reduced by approximately 20 min. and the speeding up of the train working has enabled an additional service to be introduced in each direction between Appleby and Penrith. When diesel replaces steam on the Manchester London Road—Stoke service there will be eight more trains each way, with savings of 11-23 min.

Importance of Reducing Station Time

While train acceleration and braking characteristics, together with the signalling system, can do much to increase the track capacity, the ultimate test of how many Underground trains can be run in a peak hour rests with passengers and how long they keep trains in stations. This is the message of a poster being displayed on all Underground stations in connection with the klaxon experiment at Liverpool Street on the Central Line (MODERN TRANSPORT, November 16, 1957). Seconds lopped off station time can mean an extra train for the peak, London Transport tells its passengers.

Six-Month Provisional Driving Licences

Provisional driving licences are to cost 10s. and will be valid for six months instead of three months, beginning on March 1, Section 18 of the Road Traffic Act, 1956, under which this change is made, also provides for the making of a further order under which licensing authorities would have the power to refuse to issue another provisional licence to any driver who has, within the previous 1½ years (and in certain instances within 2½ years) held two provisional licences, the last during the previous 12 months, unless the applicant has either taken a driving test during the currency of his last licence or given reasonable cause for not having done so.

Large-Scale Radio C. and D. Experiment

Following a successful test in the use of radio telephony, the North Eastern Region of British Railways has installed radio telephone apparatus at its Newcastle Forth goods depot and in six of the collection and delivery vehicles. The purpose is to carry out an experiment on a larger scale. During the working day, as traders' requirements become known at the depot, messages can be passed direct to the vehicles drivers working in the vicinity of any particular firm or firms. This will be the means of giving quicker service to the public and should prove of particular benefit to traders having urgent traffic which they require to be picked up from their works at short notice.

Work Study for Scottish Railwaymen

Sir Ian Bolton, chairman of the Scottish Area Board of the B.T.C., recently formally opened the Scottish Region work study school at 181 West Regent Street, Glasgow.

Forth Bridge Bill

The Forth Road Bridge Order Confirmation Bill, which has had a first reading in the House of Commons and was published last week, authorises the diversion of roads and purchase of land as part of the bridge scheme.

Western Avenue To Go Underground

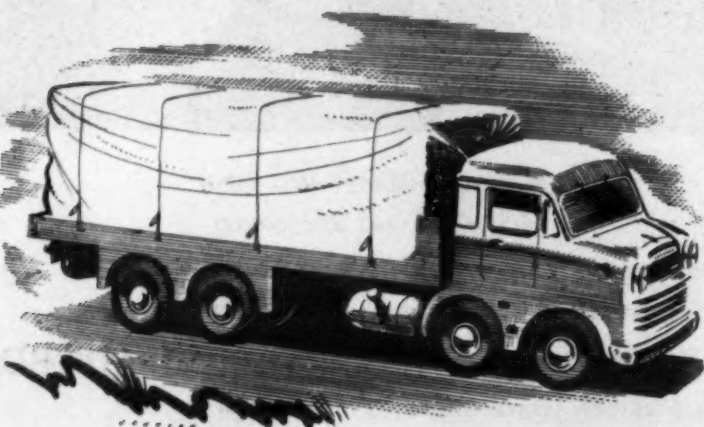
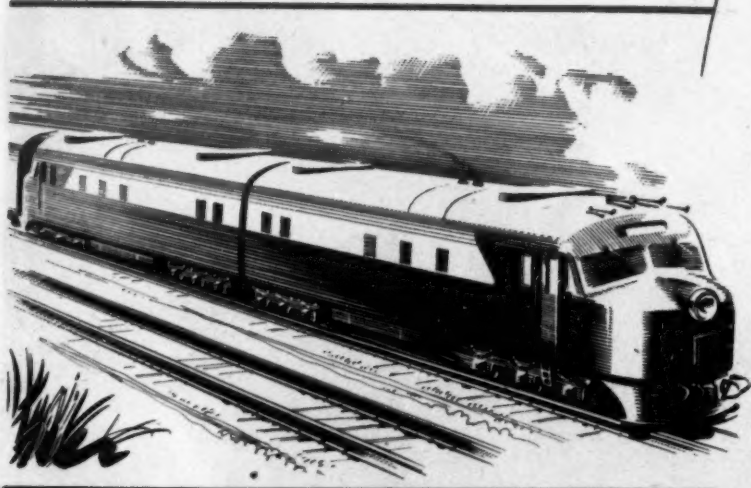
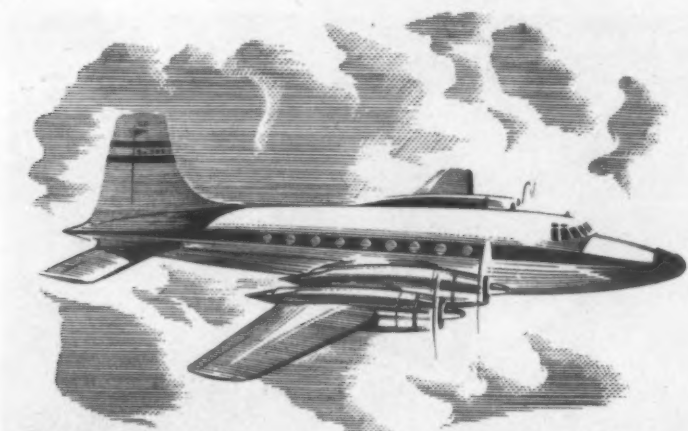
Tenders are being invited for a £650,000 underpass on Western Avenue at its junction with Hanger Lane (North Circular Road) in Ealing. Work is expected to start in the spring. The underpass will have dual 24-ft. carriageways with additional 24-ft. carriageways branching from both sides to form an unchanged surface connection with the North Circular Road for turning traffic. There will be pedestrian subways here and at South Greenford Halt and there will ultimately be dual carriageways thence to Gipsy Corner, East Acton.

Historic Rolling Stock Safeguards

A committee representative of railway societies has written to ask Sir Brian Robertson, chairman of the British Transport Commission, for an interview to discuss what it describes as the "present sorry state of affairs" in the preservation of historical rolling stock and other relics of railway history. It proposes five points for discussion: the desirability of instructions to all regions not to destroy, without the authority of the Commission, any item scheduled for preservation; the affixing of metal plates to all larger items scheduled; the setting up of a committee, representing the Commission and other interested bodies, to seek a site for a transport museum; the storing of items intended for the museum where they can be seen by the public and kept in good condition; and the cataloguing and passing to the curator of historical relics of all drawings and photographs of extinct stock.

Rhodesian Railway Electrification Proposals

The Rhodesian Federal Minister of Transport and Works has turned down a recommendation from engineering consultants, who were recently engaged to advise on railway development policy, that electrification should be introduced on the Rhodesian Railways. The Minister, Mr. William Eastwood, has said that following a study of the consultants' report, both the railways and the Ministry had concluded that electrification at this stage was not justified by the additional tractive power likely to be needed during the next few years, in view of the existing locomotive stock and the shortage of loan capital. Mr. Eastwood said this shortage of loan capital represented a change from the circumstances prevailing at the time the consultants were briefed for their inquiry. The 46 new Garratt locomotives and 12 new diesel-electrics should provide enough motive power to meet traffic demands for some years to come.

**FORTIWELD**

the weldable steel
with
high strength/weight ratio

*

FORGINGS & BARS FOR ALL FORMS OF TRANSPORT

*

**STEEL, PEECH & TOZER
THE ICKLES · SHEFFIELD**

A Branch of The United Steel Companies Limited



COMMERCIAL AVIATION

Aerlinter Plans for Spring

VANCOUVER-LONDON

As already foreshadowed in MODERN TRANSPORT a new transatlantic service, concentrating on economy class travel between Dublin and New York, will be inaugurated in the spring by Aerlinter Eireann. Mr. J. F. Dempsey, its general manager, went last week to New York to establish United States offices and recruit staff. He said that three Lockheed 1049 H Super Constellations, leased from Seaboard and Western Airlines, would be used on the Dublin-Shannon-New York route and the first flight was expected to be made early in April. The New York-Shannon sector would be operated by Aerlinter Eireann, the name of the carrying company, and under a normal interchange arrangement with its sister company—Aer Lingus—the transatlantic aircraft would continue through to Dublin. Initially the airline would concentrate on providing an economy class service, and by overflying Gander in each direction, the saleable seating capacity would average 95. With the opening of the new service, three round trips would be made each week, leaving New York on Sundays, Wednesdays and Fridays. A daily service would be operated during the peak months, tapering to five round trips a week in the autumn, while the winter schedule (November-March) would allow for three round trips a week. It is also intended to operate a service between Boston and Ireland, but this is not likely to come into being before the autumn. The aircraft will be flown by Seaboard and Western crews, but the cabin attendants will be Irish Airlines hostesses. It is not intended to employ stewards. As far as their other duties allow, Irish pilots will fly as supernumeraries in order to gain route experience. Maintenance and overhaul of the aircraft will be carried out by Seaboard and Western at Idlewild.

S.A.A. to Cease Serving Paris

South African Airways has announced the cancellation of Paris calls on all its flights between London and South Africa from April 1. Passenger and other traffic between the Union and France were stated to have proved to be negligible.

T.C.A. to Fly Vancouver-London

A direct service between Western Canada and Britain will be inaugurated by Trans-Canada Air Lines in May. The new service will originate from Vancouver and fly via Winnipeg and Gander to London, enabling passengers from Western Canada to travel to Britain by a through flight. Announcing the new service this week, Mr. G. R. McGregor, president of T.C.A., said that the Canada-United Kingdom bilateral air agreement required that any T.C.A. transatlantic flight not landing at Toronto or Montreal land at Gander. The new service will start on a weekly basis.

The de Havilland Gnome

The de Havilland Engine Co., Limited, has announced an extension of the agreement on the interchange of technical information which has been in operation between it and the General Electric Company of America since 1951. During this period the General Electric Company has been developing a 1,000-h.p. gas turbine engine and the de Havilland Engine Company has been granted the right to manufacture this powerplant in England. The American version of the engine is designated the T58. It is to be used by the United States Navy primarily in helicopters, including the development of the Sikorsky S-58. The engine weighs, with its gearbox, only 325 lb., and passed its official Government type approval test in America in October, 1957. Initially, the new engine, which is to be known as the de Havilland Gnome, will also be used in England in helicopters. Later versions will cover turboprop installations.

S.C.A. Revives at Newcastle

A network of services radiating from Woolsington Airport, Newcastle-on-Tyne, is to be operated by Silver City Airways. The airline plans to operate 13 weekly services on six separate routes out of Newcastle in 1958. Four of them will be international services and two internal links. Operations will start on May 5 with the inauguration of a service to Amsterdam and Düsseldorf. Flights to the former will operate on Mondays and Thursdays in each direction, the Monday service going on to Düsseldorf. On the following day a service will be started between Newcastle and Brussels, with a call at Yeadon Airport, Leeds. This service will also be twice weekly, operating on Tuesdays and Fridays in each direction. The fourth international service to be inaugurated from Newcastle will be one to Hamburg, due to start on May 8 and formed by extension of the Thursday flight to Amsterdam. On May 18 a service will open between Newcastle and Blackpool, with a 40-min. flying time and on May 24 Silver City will begin a five-times weekly operation between Newcastle and the Isle of Man. All Newcastle services will be operated by newly furnished 36-seat Douglas DC3s.

Britannia Utilisation by B.O.A.C.

Last Saturday (February 1) was the first anniversary of the introduction by British Overseas Airways Corporation to passenger service of its Bristol Britannia turboprop aircraft. During the year, its Britannias have carried nearly 77,500 passengers and have flown some eight million miles during 28,000 hours on revenue earning services. All but 100 of the total hours have been recorded by the corporation's fleet of 15 medium-range Britannia 102 aircraft, the long-range Britannia 312 having only recently begun operations with the corporation on the North Atlantic. Mr. Keith Granville, deputy managing director of B.O.A.C., said: "We have received a great deal of praise from passengers during the past 12 months saying how much they liked travelling in the Britannia. Its speed and comfort, and the absence of vibration, put it way out ahead of competitors. Proof of its popularity, if needed, can be shown by statistics—in its first 12 months on our eastern and southern routes its average revenue passenger load factor was 72 per cent, a most satisfactory achievement." B.O.A.C. Britannia 102s are now flying on an average nearly eight hours a day per aircraft. The average daily utilisation over the year has been 61 hr. per aircraft. This utilisation record is very similar to that of the Douglas DC7C aircraft introduced into service by B.O.A.C. at the beginning of 1957 and is better than that of any other aircraft type in its first year of B.O.A.C. service. The Proteus 705 engine fitted to the Britannia 102 is now certified to run 1,050 hr. between overhauls and is expected to be certified for 1,300 hr. shortly; the rate at which its total of permitted hours between overhauls has increased during the year is faster than that of any other engine brought into service by B.O.A.C.

PASSING OF COLOURFUL TRANSPORT FIGURE



The late Mr. ASHTON DAVIES, C.V.O., O.B.E.,
J.P., M.Inst.T.

Although he retired on August 31, 1944, the reputation of Mr. Ashton Davies, C.V.O., O.B.E., M.Inst.T., who died on February 1 at the age of 83, was still vivid with railwaymen as one of the most colourful personalities in that or any field of transport. He joined the former Lancashire and Yorkshire Railway in 1890 and served first in the telegraph department transferring later to the passenger superintendent's office, where he ultimately became personal assistant to the superintendent. Mr. Davies held this position during the term of office of four superintendents and was associated, with conspicuous success, with many important schemes and developments, including the establishment of the train control system. While attending lectures on railway economics at Manchester University, he obtained one of the first scholarships given by the directors of the Lancashire and Yorkshire Railway Company, and, on the establishment of a school of signalling for the staff, he was appointed lecturer. When Sir (then Mr.) Arthur Watson—who was subsequently, for some time, general manager of the L.M.S.R.—succeeded the late Sir John Aspinall as general manager of the Lancashire and Yorkshire Railway in January, 1919, Mr. Ashton Davies was selected for the position of superintendent of the line, and, on the amalgamation of the London and North Western and Lancashire and Yorkshire Railways as from January 1, 1922, he was made general superintendent of the Northern Division, becoming general superintendent, Western Division, on the formation of the L.M.S.R. twelve months later. In January, 1924, he was appointed general superintendent (freight services), and, in the following August, general superintendent (passenger commercial). In 1931, on the reorganisation of the passenger commercial side of the company's business, he was made passenger manager, and in October of the following year he was appointed chief commercial manager. Among other developments associated with the tenure of office by Mr. Ashton Davies as chief commercial manager was his introduction of the quota system of railway sales promotion, which proved highly successful. In June, 1938, he was appointed acting vice-president (railway traffic, operating and commercial) and subsequently to the position of vice-president, from which he retired. He was a director of several road transport and holiday estate companies associated with the L.M.S. Mr. Davies was a foundation member, and former member of council, of the Institute of Transport, and in 1930 was awarded the Railway (Operating) Gold Medal for his paper on "The Co-ordination of Transport." He also read numerous papers before other learned societies and technical institutions. He was made an O.B.E. in 1925 and a C.V.O. in 1939.

IN PARLIAMENT

C.o.F. for Microbuses

SPECIAL A-LICENCE RENEWAL

DUAL-PURPOSE vehicles with not more than 12 seats are to be exempted from certain of the Conditions of Fitness Regulations if to be used as public service vehicles, under revised consolidated regulations which it is hoped to issue this month, the Minister of Transport announced. This is along the lines proposed in his circular issued last May (see issue of June 8, 1957).

Licences for Car Carriers

When Miss E. BURTON complained of anomalies in the carriers' licence requirements for car delivery vehicles, Mr. H. WATKINSON, the Minister of Transport, said he thought what she had in mind was that the operation of car delivery vehicles under general trade licence plates did not require A- or B-licences. There was a possible anomaly in that and he was looking into it.

B.T.C. Superannuation Rules

Mr. P. WILLIAMS asked the Minister of Housing and Local Government to designate the British Transport Commission a public board for the purpose of the Superannuation (Local Government and Public Boards) Interchange Rules, 1949. Mr. H. BROOKE said he was considering a request from the Commission that it should be designated. It was a complex matter and a decision would take some time.

Dartford-Purfleet Tunnel

Work on the Dartford-Purfleet tunnel is progressing from both sides of the river, said Mr. G. R. H. NUGENT, in a written answer, and the shields have been driven for about 180 yards. The work is up to schedule and should be completed in 1962. The maximum tolls prescribed in 1937 were increased threefold by the Dartford Tunnel Act, 1957, but the actual tolls will not be fixed until just before the tunnel is completed.

Bristol Sales Restrictions Mentioned

There was growing redundancy at the works of Bristol Commercial Vehicles, Limited (the B.T.C.-owned vehicle manufacturing plant), said Mr. S. AWBERRY, because it was restricted to B.T.C. orders. The Minister of Transport replied at first that "he had no power" to remove those restrictions imposed by the Transport Act, 1947; later, under pressure, he said he was "prepared to rest on the Act." Mr. ERNEST DAVIES commented that similar restrictions applied to the motor body-building works of British Road Services at Enfield (formerly owned by Pickfords, Limited).

Renewal of Special A-Licences

Mr. ERNEST DAVIES asked the Minister of Transport if he would arrange that special A-licences will not automatically be renewed on their expiry, but that their holders may be entitled to apply for ordinary A-licences, and, where they do so, will be subject to the procedure applicable to those making an initial application for such licences. (The first such licences will come up for continuation at the end of this year.)

Mr. H. WATKINSON replied that when these licences expire applications for ordinary A-licences to replace them must be dealt with under the provisions of the Road and Rail Traffic Act, 1933. In this matter holders of special and ordinary A-licences will be in the same position. Mr. Davies suggested that in view of the fact that a large number of special A-licences and their vehicles had been transferred since they were sold from the British Road Services fleet, and were operating in areas far away from their original bases, contrary to the 1953 Transport Act, the Minister should see that these facts and any illegal operation were taken into consideration when applications are made for new licences. Mr. Watkinson contented himself with the observation that special A-licences would be dealt with in exactly the same manner as ordinary A-licences.

BOOK NOTICES

Trade and Technical

TRAVEL TRADE DIRECTORY, 1958 (London: Travel Trade Gazette, Limited, 10 Norfolk Street, W.C.2. Price 10s. 6d.) This new publication by a journal which has established an excellent reputation in the travel business should prove equally valuable in its own sphere. There are alphabetical indices of travel agents, shipping companies, railways, airlines, tour operators, car hire firms and other organisations. Thereafter comes a directory section in order of towns, a large amount of other useful information and a separate section for the Republic of Ireland.

OVERSEAS RAILWAYS, 1957. (London: Tothill Press, Limited, 33 Tothill Street, S.W.1. Price 3s. 6d.) Following its usual practice of including a representative selection of reviews written as a rule by general managers or other senior officers of the undertaking concerned, the latest edition of this book records developments in all parts of the world. There is, it is true, little reference to Europe other than Spain where there is a special article, but Africa, Australia and India receive particular attention. Through most of the contributions runs the thread of modernisation in its various forms and it is plain that whatever their difficulties, the railways are fighting vigorously to expand, and not merely to survive.

A new range of commercial vehicle tyres is now being marketed in Britain by the Kelly-Springfield Tyre Co., Limited, which has obtained factory facilities in the Midlands for manufacture of tyres and tubes. The Kelly giant tyre types for commercial vehicles are Super Armor Trac and Dual Trac. The sizes made cover 92 per cent of those needed in the replacement market. Service to users promises to be competitive and a remould service will also be provided.

One of the largest presses in this country devoted exclusively to producing glass fibre flat sheet now operates at the Permaglass division of Permah, Limited, Gloucester. The standard sheet produced measures 70 in. by 34 in. and more than 30 different grades using phenolic, melamine, polyester or epoxy resins combined with one of several different forms of glass cloth can be pressed to suit almost any particular application, although the six basic grades manufactured cover most normal requirements.

LINER OPERATION AND TURNROUND OF SHIPS

Problems of the Shipowner

By R. S. MacTIER, C.B.E., Partner, Alfred Holt
and Company*

LINERS operate at tariff rates—that is you earn just the same per ton carried whether your turnround—that is your complete voyage—is say 68 or 75 days. What then are the factors which influence the liner owner in the design of his ship? What features in size, speed, type of machinery and so on will produce the best result in relation to his potential competitors and the future of the trade he is trying to serve?

In trying to solve this problem the liner owner takes as a point of departure that to be successful his service must be regular and as infrequent as the economics of the area he serves will allow. He knows his steaming distances and the ports he intends to serve, and he must guess at the port facilities he will have and the cargoes he will get over, say, the next 25 years.

Size of Ship

The first problem to consider is the size of the ship. In many trades the answer is provided by limitations in length, draft or beam imposed by port conditions, swinging room in a river, bar draft, the width of locks, and so on. But where there are no such restrictions the decision is not such an easy one. Theoretically—within limits—the bigger the ship the cheaper the cost of carriage per ton-mile. If the shipowner estimates that his share of the traffic between say Liverpool and Hong Kong will be 16,000 tons a month, the most economic way of lifting this volume of cargo would be to provide one ship a month capable of lifting 16,000 tons. Unfortunately, however, the

shipowner's clients—the shipper and his consignee in the East—have quite different ideas.

The Hong Kong importer wants to make the maximum use of his working capital—that is, he aims at maximum turnover and minimum stocks. He will obviously prefer, for example, to import 200 drums of paint each fortnight rather than 200 drums a month—that is he wants a frequent service. It follows, then, that in a competitive world the liner owner cannot plan simply in terms of producing the most economic units to carry the trade. He must in practice decide what is the minimum frequency of service which will satisfy the requirements of his clients, and having done so what is the biggest ship which he can hope to fill regularly on the basis of this frequency.

Compromise

The practical compromise which experience has dictated seems to be a ship somewhere between 17,000 and 12,500 tons bale capacity. Within these limits, and assuming full cargoes, what is the measure of the greater economy of the big ship? I have taken two hypothetical examples. Firstly, two comparable 16-knot motor ships of 13,300 and 16,300 tons respectively making a Far Eastern round voyage of 137 days through the Suez Canal. In this trade canal dues and port charges represent about 16 per cent of the total disbursements, excluding cargo expenses. Assuming time spent in port is the same in both cases, which is quite reasonable, the operating cost, per 1,000 tons bale capacity per mile steamed, works out at 54.6d. for the smaller and 52.6d. for the larger ship. This therefore represents an advantage in operating

economy of 3.7 per cent in favour of the larger ship.

The second example is the same two ships making a round voyage to Australia, out via the Cape and home via Suez. Here port and canal dues represent about 12.3 per cent of disbursements and the operating costs work out respectively at 55d. and 52.8d. per 1,000 tons bale capacity per mile—the advantage in favour of the larger ship in this case being 4 per cent. Of course all the theoretical advantages of the big ship disappear either if you can't fill her or alternatively if she takes longer to load and discharge, thereby increasing the length of the round voyage. The liner operator's problem is therefore to forecast firstly the trend of the general cargo trade both in volume and in nature between the areas he serves, and secondly, the development of facilities in the ports concerned. He may design an expensive ship with gear planned for working 12 gangs, but in practice he may well find himself at a port where, lying in the stream, he can only work single gear into four large lighters in conditions where a much cheaper five-hold-tramp with single gear could do just as well.

Speed

From size we turn to speed. In the first place we can accept the premise that we have already discussed—namely that we must base our plans on the minimum frequency of sailings which will satisfy our clients. From this departure let us assume as an example that we want to mount a service of two sailings a month to the Far East—a round voyage of 26,000 miles with a total of 26 ports of loading and discharge, and the first point to consider is the theoretical merits of achieving this frequency with so many units of comparatively slow ships, or a smaller number of faster and of course more expensive ships.

Unfortunately the figures tend to be distorted to a certain extent by the fact that to achieve increased speed considerations of hull form tend to force the designer to build a longer and bigger ship, and hence the earning capacity of ships of widely differing speed is not comparable. However, to illustrate the financial implications of the speed factor I have taken figures of operating the 26,000-mile Far Eastern round voyage, firstly with a 17½-knot and secondly with a 15½-knot ship.

Both types are hypothetical modern single-screw turbine ships of about 10,000 gross and 15,500 bale capacity. Two knots make a difference on this voyage of only eight days steaming at sea, but because of the numerous short passages between ports when the slower ship misses tides and loses half days working time in port, the effect of this difference in speed is that to maintain two

No. of vessels	Average voyage speed	Round voyage days	Depreciation and insurance per day	Fixed charges, stores, repairs, victualling, wages, admin., per day	Fuel	Operating cost per ship per day	Operating cost of fleet per day
9	17½ k.	137	£227	£280	£225	£732	£6,590
10	15½ k.	153	£183	£260	£160	£603	£6,030

sailing a month requires 10 15½-knot ships against nine 17½-knotters, that is, the slower ship achieves a round voyage of 153 days and the faster of 137 days. The figures are tabulated above.

Capacity

Judged by this sort of calculation it appears to be a better proposition to operate the 15½-knot ships, but there are other considerations, and the most important of these is that in many trades the fast ship attracts the better paying cargo. And so apart from working out the comparatively straightforward sort of calculation I have already mentioned the liner owner must indulge in some pretty shrewd stargazing to forecast how the earning capacity of his new ship is likely to be affected over the next 25 years by the speed of his competitors' tonnage.

Closely related to the problem of size and speed is the question of the relation of the ship's bale capacity to deadweight—that is, how to achieve the ship operator's ambition of being consistently full and down. Now, seeing that most liners are designed for special trades it should be possible from a careful study of the trade statistics of the territories concerned to work out the answer fairly accurately. Unfortunately, however, over the 25 years life of a ship trade conditions can change drastically. The erection of a car assembly plant in a colonial territory may reduce by 75 per cent the shipping space required for the country's import of motor vehicles, or a new local cement industry may have the reverse effect by drastically reducing the import of weight cargo.

Propelling Machinery

The other factor which can affect profoundly the deadweight-space question is the type of main propelling machinery installed. The table given illustrates the comparative merits of high pressure steam turbine and diesel machinery in a modern 16-knot cargo liner of 7,800 tons gross and 6,900 s.h.p. on a section of a voyage of 2,000 miles.

Machinery	Oil fuel consumed per day Tons	Weight of fuel for 2,000 miles Tons	Weight of machinery Tons	Mean length of engine room Feet
Turbine	39	360	937	52
Diesel	28	260	1,020	63

Turbine machinery is lighter but the motor ship burns less oil and so should be able to carry a greater weight of cargo. Obviously the longer the voyage the greater the advantage of the diesel engine. On the other hand the turbine calls for a substantially smaller engine room, and if the two ships are the same size this results in there being more space for cargo in the turbine ship—in our theoretical liner the actual figure is 490 tons of 40 cu. ft. of additional cargo space. In terms of cash, therefore, the motor ship can operate at nearly £100 a day less than the steamer when at sea, but in certain trades the turbine ship can carry more freight-earning cargo. Further, almost invariably the steamer is cheaper and easier to maintain and repair. It is a nice balance which must be resolved in relation to the shipowner's guess as to the future of his trade.

Sub-Division

The final major problem in design which the shipowner must study is sub-division, the commercial problem of arranging a ship's compartments to the best advantage in the trade concerned. The space in each compartment must be related to the working capacity of the cargo gear which serves it—that is, the ship must be balanced from the point of view of cargo working; the greater the range of loading and discharging ports the greater the number of decks; the depth of lower holds, height of 'tween deck and dimensions of hatches must be related to the trade, with particular reference to uncased vehicles, carton and other crushable packings, long length and the carriage of specialised cargo such as acids, explosives and other dangerous cargo outward, dirty and taintable cargo homewards, and in many trades most important of all, the carriage of liquid cargoes in bulk both out and home.

As to cargo working facilities at the ports the liner is to serve—will she work mostly alongside wharves well equipped with short cranes, or as in many ports in West Africa, will she work into small surf boats, or, as at Taku Bar, will the liner lie in an exposed anchorage and work into very large lighters? The arrangement of holds and the cargo gear to serve them is greatly affected by these considerations and by the probable future of the ports concerned. These are some of the problems the cargo liner owner must study when he considers the problem of turnround and the sort of ship he wants and how it should be run.

The eighth overseas subsidiary to be established by Black and Decker, Limited, Harmondsworth, has been opened in Auckland, New Zealand.

Mr. J. Cleary, who has been responsible for sales in Yorkshire and the North East, for the Dunlopillo division of the Dunlop Rubber Co., Limited, has handed over his duties in the North East to Mr. P. Pettman so as to be free to develop Dunlopillo business with the shipping industry.

An all-welded gas main with a length of about 10,000 ft. has been fabricated by the Tees Side Bridge and Engineering Works, Limited, using Quasi-Arc equipment. The main and distribution pipes have diameters varying between 9 ft. and 3 ft. and are used to carry blast-furnace gas from the Cleveland works of Dorman Long (Steel), Limited, to the company's steel plant at Lackenley.



Great new styling!

FOR BUTCHER, BAKER, CANDLESTICK MAKER—

NEW THAMES

10/12 and 15 cwt Vans
Chassis & Estate Cars



NEW in precision construction and balance
NEW in advanced design
NEW in forward control with 75% payload capacity
NEW in low-loading height
NEW in functional styling
NEW in advanced mechanical features

Plus these great new styling features

NEW smooth, flowing functional styling to enhance your prestige. Long, clean side panel—superb for publicity. Forward control with wide deep single-piece curved windscreen—good to look at—excellent to look through! Replaceable bottom body panel in case of accidental damage. No forward tilting when riding unladen. New range of eye-catching colours in full gloss car finish.



The new Thames range includes a rear loading van—a rear and side-loading van—a chassis and cab—a chassis with cab fittings—a chassis and front end—and, AVAILABLE SOON, standard and de Luxe Estate cars. SEE THEM AT YOUR FORD DEALER—ASK FOR A DEMONSTRATION.



and remember—it's THAMES for

Low Initial Cost
Low Running Costs
Ford Service, too!

a **NEW** '5-Star' range from

FORD

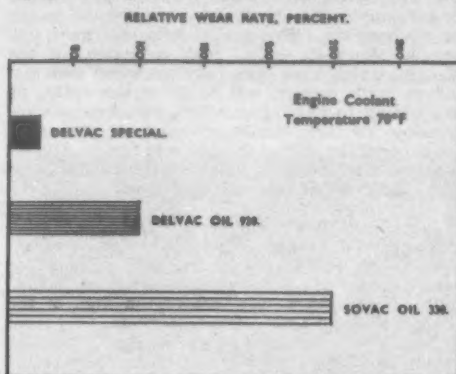
the best at lowest cost

FORD MOTOR COMPANY LIMITED · DAGENHAM

ROAD VEHICLE INDUSTRY

Delvac Special Oil For Fleet Use

An automotive engineering memorandum issued by the Mobil Oil Co., Limited, reports on the results achieved in over three years of field tests and experiments with a new engine oil, Delvac Special, which is suitable for commercial vehicle petrol and diesel engines in year-round fleet service. Delvac Special is a multi-grade oil and can satisfactorily replace a variety of grades such as is commonly required to meet the needs of a mixed fleet of vehicles. It covers the S.A.E. viscosity classifications 10W and 30 and is also suitable for 20W, 20 and 40 service. It is a highly detergent oil which has been certified



Results with Delvac Special oil compared with two widely used brands of oil obtained by radioactive tracer technique

against the engine test requirements of B.S. DEF 2101A using 1 per cent sulphur diesel fuel—still often referred to as Supplement 1. As an example of British engine manufacturers' needs, Delvac Special satisfies Gardner Specifications KW, BW and BS and the company's advice in Publication Sheet No. 737. The new oil is said to have proved particularly effective in combating corrosive attack in cylinders and other wear and in controlling a wide range of deposits. Used in Mobil fleet tankers, it has shown fuel savings of up to 7 per cent in mixed running over Delvac 930 and a 20 per cent oil consumption advantage. Apart from normal draining and attention to filters, no special precautions are necessary when changing over to Delvac Special.

LeTourneau Logging Machines

USERS of heavy-duty off-road logging equipment will be interested in three new brochures published by R. G. LeTourneau, Inc., 2399 South MacArthur, Longview, Texas, U.S.A., which describe and illustrate the com-



Mann Egerton Polyzote-insulated light-alloy panelled body on Bedford 5-ton chassis, one of six recently delivered to S.P.D., Limited; right, dual-purpose Morrison-Electrical ED 25-cwt. equipped by Wadham Brothers; the 200-gal. tank with metered delivery can quickly be slid back for battery inspection or lifted clear of the lorry body



pany's range of machines developed for the logging industry. The machines embody Cummins diesel engines direct-coupled to LeTourneau generators which provide power for traction motors driving all wheels, regenerative electric braking and fingertip electric controls for all functions, including steering; they include a 30-ton capacity transporter and a 22-ton capacity fork-lift stacker.

Dyson Aeroride in Service

THE first of the new Dyson Aeroride Haulmaster air-suspension semi-trailers (described in MODERN TRANSPORT for June 22, 1957) has now entered service. Hauled by a Leyland Beaver tractor, it is operated by Sutherlands of Peterhead (Road Hauliers), Limited, which specialised in long-distance fish transport.

Low Engine Costs With Diesels

ENGINE replacement and repair costs averaging only a halfpenny a mile are reported by Explorator, Limited, which uses a fleet of Perkins P6-engined Ford 5-ton insulated vans for fish transport between ports and retailers. The company's P6-engined vehicles have covered a total of 12,500,000 miles since the first Perkins engine was installed in 1949.

Ten Million Clutches

LAST month brought a notable milestone in the activities of the Borg and Beck Co., Limited, Leamington Spa, with the production of the ten millionth clutch since the company started operation in this country 25 years ago. In 1932, production was commenced with three sizes of clutch compared with a current range of 18 different sizes catering for vehicles from the smallest car to the heaviest commercial vehicle. It took six years to produce the first million clutches and the major expansion has been in the postwar years in step with the rising production of British motor vehicles of all types, 80 per cent of which fit Borg and Beck clutches.

Duple Midland Seeks Room to Expand

NEGOTIATIONS now in progress between Loughborough Corporation and Duple Motor Bodies (Midland), Limited, over a six-acre site adjoining the company's present 34-acre site in Swingbridge Road probably presage development of the coachbuilding industry in the area. Duple operations in Leicestershire are at present divided about equally between Loughborough and Kegworth, both opened about five years ago, and include the production of all-metal bus and coach bodies mostly for export. The company's lease on

the Government-owned Kegworth works expires in a few year's time, when Midlands production will probably have to be concentrated at Loughborough.

U.S. Automatic Parking Garage

PLANNING permission to erect a 230-vehicle eight-storey parking garage near Times Square, New York, is sought by a company named Speed-Park, Inc. The company is prepared to build what is claimed to be the first completely automatic parking garage in the United States. It uses a mechanism developed by a Mr. Alhmanestiana, which obviates all human handling in parking a vehicle in any vacant stall or returning it to ground level.

New Underbody Coatings

TWO new vehicle underbody coatings have been introduced by Albin Products (Manchester), Limited. Quickseal is a spirit-based coating designed for rapid drying in wet weather and during the winter months. It sprays at 10 lb. gun pressure and a vehicle can be run immediately after the coating has been applied. Double Seal Underbond includes phosphates and rust inhibitors and provides a rubberised protective finish. It also sprays at a low pressure and is non-inflammable. Both materials are guaranteed for the life of a vehicle.

Self-Locking Threaded Fasteners

JUST introduced into this country by Guest Keen and Nettlefolds (Midlands), Limited, is a new fastening principle named Wedglok which makes threaded fasteners completely self-locking. The locking element employed is a resilient nylon pellet which is inserted into the body of a nut or into the bolt or screw to which a nut is fitted. The nylon pellet, which projects slightly above the crest of the thread, sets up a spring-like wedging action on the mating threads. Locking is claimed to be positive whether the nut is seated or not, and the fasteners are reusable, and Wedglok nuts can be assembled either way.

B.R.D. Company Expansion

EXPANSION of its precision engineering facilities is announced by B.R.D. Co., Limited, which now has a large capacity available for machining crankshafts and, as we recorded on January 11, has recently established a department to produce the Garringtons constant-velocity universal joint. The company's facilities include an efficient experimental department, a large tool-room and up-to-date machine tools, induction-hardening and balancing equipment. It has earned a high reputation for the production of gas-turbine blades. Now, due to a falling off in demand from

the aircraft industry resulting from the Government White Paper on Defence of last year, capacity is also available for motor-vehicle components such as half shafts, gears and so on.

Aluminium Alloy Specifications

PRINCIPALLY of value to buyers, designers and others concerned with the specifications for aluminium alloys, a new edition of the booklet, "Specifications for Aluminium and Aluminium Alloy Products," is available on request



Rootes diesel-engined Commer 7-tonner forms the basis for this Yorkshire 1,400-gal. street washer in service with Edinburgh Corporation. With a 100-g.p.m. pump, the vehicle can also be used as an auxiliary fire-fighting vehicle

from the publishers, Northern Aluminium Co., Limited, Banbury. This reference book gives in tabular style a summary of all the official British specifications for aluminium alloys in semi-fabricated forms, together with the proprietary names of the alloys that are offered by British manufacturers to meet these specifications.

Power for Dunlop Wheel Factory

FACTORY extensions and the installation of additional automatic machinery at the Foleshill (Coventry) works of the Dunlop Rim and Wheel Co., Limited, have increased the total power consumption to 18 Mva. A new primary substation has been installed to cope with the extra load, for which Crompton Parkinson, Limited, has supplied and erected the 6,600-volt switchgear, as well as a large quantity of cable, EHV and LV switchgear and various transformers for expansion of the works supply network, which included an EHT ring main linking 14 substations to the new primary substation.

Beside the seaside...



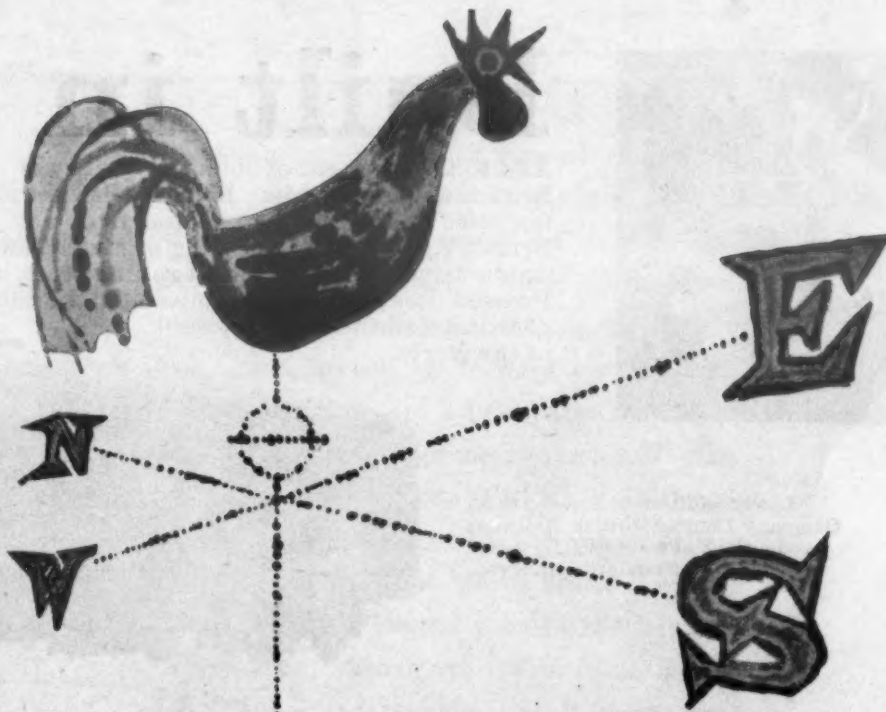
As befits a resort whose existence depends on the goodwill of its visitors, Blackpool's passenger transport facilities are a shining example to other municipalities. It is significant that, following a competitive trial order, MCW 'Orion' double-deck bodies were chosen exclusively for a further order of 30 omnibuses to increase Blackpool's new fleet.



METROPOLITAN - CAMMELL - WEYMAN LIMITED

VICKERS HOUSE, WESTMINSTER, LONDON S.W.1

AP169



Shell meets the demand for DERV all over Britain

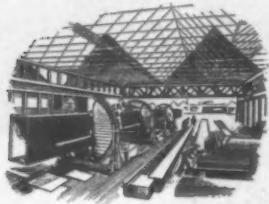
To give the best possible service to the increasing number of diesel powered transport vehicles now in operation, Shell have established a nation-wide network of agencies selling SHELL DERV. Wherever you send a diesel vehicle you can be sure that a SHELL DERV station will be close at hand. Your drivers can pay cash for SHELL DERV or by showing a Shell "Authority Card" they can refuel by a system of pre-arranged credit at any Shell agency.



YOU CAN BE SURE OF SHELL DERV

The birth of New Techniques

Continually the frontiers of science advance, and our knowledge becomes more exact. At the same time the result is that new techniques are developed, used and discarded in favour of those yet newer. In steel structures it is now



possible to take advantage of the economies possible when rigid designs are made. Welding has made many of these designs possible.

Cleveland's important contribution has been in helping to make fabrication for such structures practicable and economic. Manipulators and handling equipment have been specially designed to reap full benefit of the automatic welding in which the Company specialises.

AN INVITATION Our services are always available in design, in detailing, and in the costing and construction of all types of structures.

CLEVELAND

CONTRACTORS, BUILDERS OF BRIDGES
AND CIVIL ENGINEERS

THE CLEVELAND BRIDGE & ENGINEERING CO. LTD. DARLINGTON, ENGLAND.

PENETRATING LINES ELIMINATED

Further Adjustments in Regional Boundaries

ONE ALLEGIANCE ONLY

SOME further adjustments in the boundaries between the regions of British Railways, which will eliminate the remainder of the penetrating lines came into effect on Saturday, February 1, 1958. The changes will not of themselves affect public services by British Railways in any way.

In 1950 the railway regional boundaries were

ments of the region previously responsible for these lines continued to operate them, but became responsible for such operation to the chief regional manager of the geographical region into which the lines penetrated. Such lines became known as "penetrating lines."

The adjustments in regional boundaries now just introduced will eliminate the penetrating lines which will be absorbed by one specific region for all purposes. Men and depots will have one regional allegiance only. Staff concerned in the changes, which have been fully discussed with the railway trade unions, will be given the option of transferring to the region which now becomes responsible for their station or depot, or remaining a member of the staff of their present region. Special measures have been taken to inform all staff who are likely to be in any way concerned.

Principal Points Affected

The principal areas affected are indicated by numbers on the accompanying map. There are certain lines the status of which is yet to be decided in the Birmingham—Wolverhampton area of the London Midland and Western Regions.

The lines west of Cowley Bridge Junction, Exeter, formerly owned by the Southern Railway, are now in the main transferred back from the Western Region to the Southern so that through operation from Waterloo is in the hands of the Southern Region almost throughout. At 1 on the diagram Barnstaple Victoria Road, the former Great Western terminus, is now transferred to the Southern. Bodmin North Station (2) reverts to Southern Region and Boscombe Junction is the new boundary point. Launceston Station (3) is entirely transferred to S.R., but the motive power depot remains W.R. In Plymouth (4) the former Southern lines in Plymouth Friary, Cattedwater and Turnchapel areas remain attached to Western Region; Friary motive power shed will, however, be used by S.R. engines as long as steam working is in force. The Southern Region will be separated between Exeter Central and its new territory at Cowley Bridge Junction (5) by the Western Region station at St. Davids.

Transfers

Transfers from Southern Region to Western include the Chard Junction to Thornfalcon (6) section, the boundary being at the marker light 892 yd. from Chard Junction branch ground frame. Wincanton and Templecombe (7) on the former Somerset and Dorset become Western Region; Templecombe passenger station remains S.R. but the former S. and D. yard and the motive power depot become W.R. From a point near Red Post Junction the Andover—Grafton line (8) of the former Midland and South Western Junction Railway becomes Western Region.

(Continued on page 16)



Adjustments of the boundaries of the railway regions

adjusted to eliminate overlapping in certain areas of regional commercial interests with a view to simplifying contacts between the railways and their customers; the changes achieved important economies. This was accomplished by adopting geographical areas for the railway regions, and transferring a number of lines from one region to another for all purposes except traffic operating. To avoid a break in operating and motive power continuity, the operating and motive power depart-

Built in strength

Add to the strength of steel the quality of British craftsmanship. Back it with the manufacturing facilities and experience in steel of one of Britain's greatest engineering organisations and the products will be wagons and rolling stock by Pressed Steel Company Limited for the railways of Britain and the railways of the world.

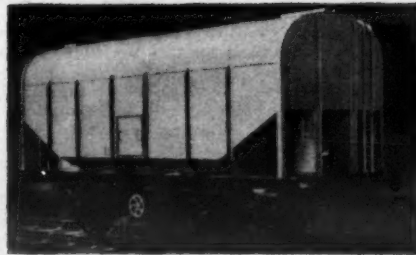


Latest addition to Pressed Steel Company Limited British Railways production: new 58 ft. gangwayed Standard Brakevan.

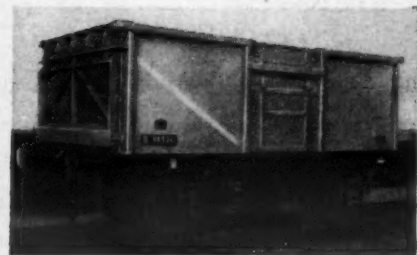


A 60,000 RECORD

British Railways have already taken delivery of over 60,000 16-ton all-steel mineral wagons produced in our Paisley works.



20-ton capacity Bulk Grain Van to the order of British Railways.



16-ton mineral wagon to the order of British Railways.

Strength built-in by



PRESSED STEEL COMPANY LIMITED

RAILWAY DIVISION: Paisley, Scotland.

HEAD OFFICE: COWLEY, OXFORD.

London Office: Sceptre House, 160 Regent Street, W.1.

NEW ROCHDALE DOUBLE-DECKERS

Completion of A.E.C.-M.C.W. Order

THE official handing-over took place last month of the last of 11 A.E.C. Regent V double-deckers with 61-seat M.C.W. Mark I bodies for Rochdale Corporation. The last vehicle, which appears in the accompanying illustration, differs from the others in the batch in that it has an Automonocontrol gearbox whereas the others are equipped with the older Monocontrol box. All the vehicles have Westinghouse air brakes and Clayton Dewandre 24-point automatic lubrication, while the power units are the A.E.C. 9.6 litre engine. Electrical equipment includes C.A.V. starter and this firm supplied five of the control boards, the other six being Simms.

The bodies, which were built by Weymann's,

fitted and a piano-hinged inlet grille gives access to this unit. The heating system utilises improved ducts and outlet grilles. Windscreen demisting is effected by means of a hot air duct which is led off from the main heating layout. The rear of the lower saloon bulkhead mirror has been suitably protected to avoid the possibility of damage being caused by air from the heater passing through the front bulkhead ducts.

Ventilation

The sliding windows are Rawlings Duovents with seven in the upper saloon and six in the lower. Four Ashanco ventilators are provided on the roof and there is a stainless steel sheathed Anster wind-

screen. A Rochdale type of hinged cab window has been fitted to the nearside of the driver's cab.

Deans seats with stainless steel top rails have been used, and all seats and squabs are of Dunlopillo manufacture with Connolly hide used for covering the seats and squabs. The seat backs and upper and lower saloon bulkheads on 10 vehicles are covered by blue Alhambrinal, but the eleventh incorporates pale-blue Formica in these positions. Stainless steel handrails are provided with MG7 magnesium alloy brackets and fittings. The orthodox type of staircase, which is removable as a unit, has been fitted.

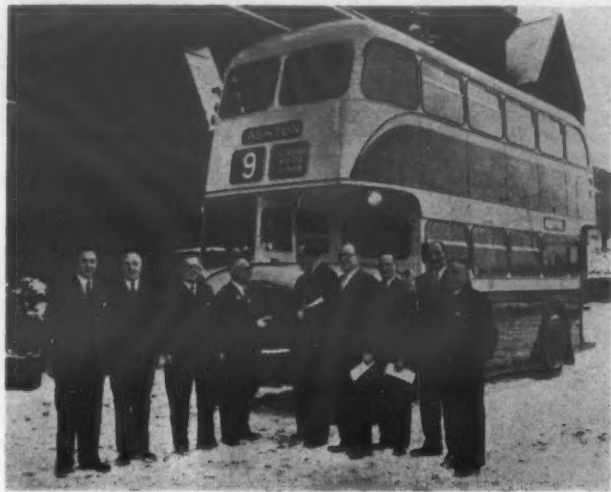
Glazing

Rubber glazing has been extensively used wherever possible and the saloon side windows are glazed with 26-oz. toughened glass. The lower saloon front bulkhead has been adapted to take the Artcem advertising machine. The electrical supply to the motor of this machine is controlled by a built-in relay switch.

A Westinghouse low-pressure warning device is fitted on the offside of the cab dash. The signalling arm, which gives visual warning of insufficient air pressure, is wired to a warning buzzer which is positioned in the driver's cab. An air-pressure gauge is, of course, fitted to the instrument panel. A quick-acting positive master switch is wired so that all electrical circuits except the under-bonnet light and cleaners' lights may be isolated from the battery.

A new Propane regulator introduced by the industrial division of British Oxygen Gases, Limited, known as type PR1, is a heavy-duty single-stage regulator suitable for propane and other liquid petroleum gases which are used for heating and cutting applications. Maximum outlet pressure is 30 p.s.i. and flow up to roundly 300 cu. ft. per hr.

Caterpillar Tractor Co., Limited, has moved some of its sales department personnel from the St. James's Street, London office, to Glasgow to give closer contact with its new factory there. The move will enable faster processing of orders and inquiries, which should now be addressed to Sales Department, Caterpillar Tractor Co., Limited, P.O. Box 162, Glasgow.



At the handing over of the last of A.E.C. Regents with M.C.W. bodies:

Left to right: Mr. Ronald Cox, engineer and general manager, Rochdale Corporation Transport; Mr. F. Calvert, sales manager, Northern Region, A.C.V. Sales, Limited; Alderman Dr. E. H. S. Scarr, chairman, Rochdale Corporation Passenger Transport Committee; the Mayor of Rochdale (Alderman Thomas Rose); Major R. M. Cole, managing director, Metropolitan-Cammell-Weymann, Limited; Mr. E. R. Hollands, municipal sales manager, A.C.V. Sales; Mr. W. R. Lawrence, general manager, Weymann's, Limited, and director, Metropolitan-Cammell-Weymann, Limited; Mr. H. A. Cook, managing director, Weymann's, Limited, and director, Metropolitan-Cammell-Weymann, Limited; and Mr. L. Robinson, manager, technical services, A.C.V. Sales.

Limited, at its Addlestone works, follow modern practice in metal construction. The driver's seat has Chapman's Leverall two-way adjusting mechanism and signalling is by the Cronapress system. The vehicles incorporate the new pattern which has been developed by the manufacturer in close co-operation with Rochdale Corporation. In addition, bell pushes surrounded by stainless steel finger plates are fitted at the top of the stairs and on the platform. A buzzer is fitted on the platform and is wired in series with a bell in the driver's cab. Ferodo aluminium-cased blue composite filled treads have been provided in both saloons and Herzm plastics-filled decorative moulding has been positioned above saloon windows.

Flashing direction indicator equipment has been provided and incorporates a C.A.V. pneumatic-type time switch with Simms lamp fittings and an Ericsson interrupter.

Lining panels are fitted throughout the upper saloon, with the exception of the domes, and lights have been placed under the stairs and also under the bonnet. An L6 Clayton Dewandre heater is

General Purpose Containers

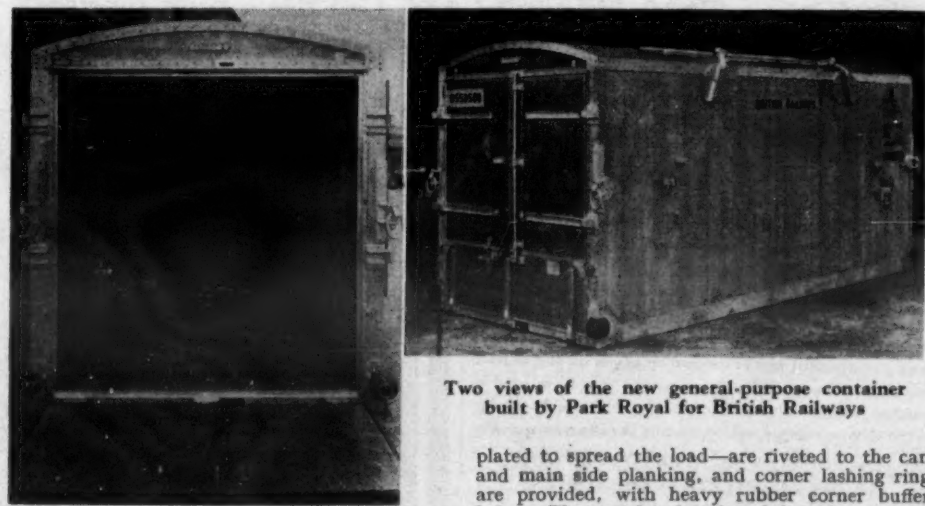
BUILT BY PARK ROYAL FOR BRITISH RAILWAYS

WITH the increasing use of various types of road-rail containers for bulk cartage of widely differing types of goods, there is a growing need for up-to-date constructional methods to cut down tare weights, increase strength and life and reduce maintenance. Park Royal Vehicles, Limited, has designed and built for British Railways a new general purpose container, based on the designs of the standard B and BD type at present in use.

The new container has a capacity of 709 cu. ft., can carry 5 tons and is 16 ft. long over framing,

extruded planking with one stiffening rib, which are arranged vertically at the sides and horizontally at the ends. These are cemented together with Araldite cold setting resin cement, and are riveted to the floor angles and cant angle. The roof framing, also riveted to the cant, is of alloy H section main and channel intermediate sticks, with channel longitudinal, panelled externally in alloy sheet.

The rear end has two vertically hinged doors with a bottom hinged tailboard below, all seating on tubular rubber sealing strip and locked by a lever-operated cam type lock. Large lifting braces—



Two views of the new general-purpose container built by Park Royal for British Railways

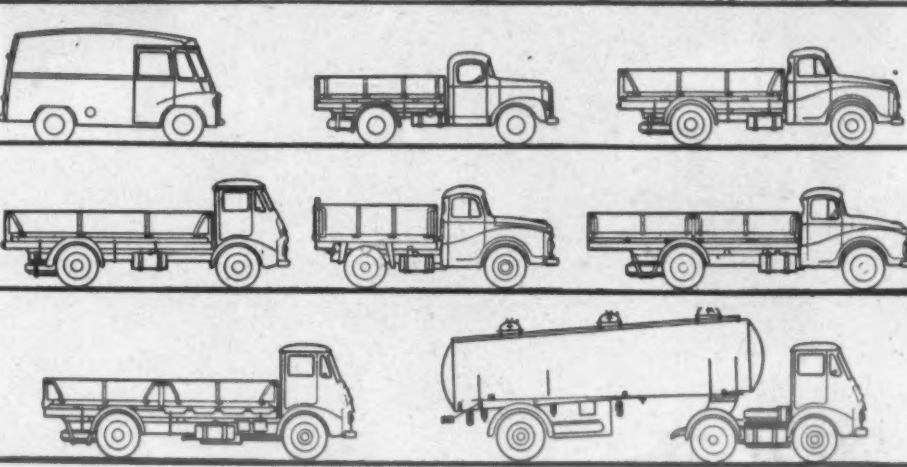
7 ft. wide and 7 ft. 9 in. high with a tare weight of only 1 ton 1 cwt. 2 qr. The main framing is based on aluminium alloy channel section crossbearers riveted to 6-in. deep alloy side angles. To this is bolted the floor of 8-in. wide extruded ribbed and tongued and grooved planking. The main sides and front end are of 13-in. wide tongued and grooved

plated to spread the load—are riveted to the cant and main side planking, and corner lashing rings are provided, with heavy rubber corner buffers below. The complete interior of the sides, end and roof are lined with plywood sheet, blind riveted to the framing, and since the container is for general purposes only, no insulation is provided. Care is taken to avoid any damaging projections inside, and the doors are arranged to hinge back to the bodyside to provide the greatest possible loading space through the rear end opening.

TAKE a MORRIS

to make a good

job of it



Whatever the capacity or type of vehicle you require, whatever the purpose you will put it to, Morris offers you an unequalled choice. Vans, trucks, pick-up, Minibus, tipper . . . petrol-running, Diesel-fuelled . . . long or short wheel-base . . . normal or forward control . . . specialised bodies . . . all capacities . . . up to 7 tons and over for prime movers. And every Morris gives you the four "EEEE's": Efficiency, Economy, Extra-long service and Ease of driving and maintenance. Your Morris dealer is waiting

to impress you with the details of this superb range. Make a note to see him—jot it down now!



B.M.C. SERVICE—THE MOST COMPREHENSIVE IN EUROPE

TWELVE MONTHS' WARRANTY



MORRIS COMMERCIAL CARS LIMITED, ADDERLEY PARK, BIRMINGHAM, 8

Overseas Business: Nuffield Exports Ltd., Oxford and 41-46 Piccadilly, London, W.1

SILVER ROADWAYS LTD.

Reliable Trunk Services to all Parts

EXETER
Peamore Garages, Alington
KENNEDY 485**BIRMINGHAM**
323 High St., West Bromwich,
Staffs.
WEST BROMWICH 2801**LLANELLY**
Morris Works, Llanelly
LLANELLY 4076**LONDON** 22-24 Bermondsey Wall West, S.E.16 BERmondsey 4533**CARDIFF**
10 Dumfries Place
CARDIFF 21631**SWANSEA**
Exchange Buildings
SWANSEA 541715**BRISTOL**
70 Prince Street
BRISTOL 22315**GLASGOW**
124 Clyde Street, C.1
BELL 4081**LIVERPOOL**
11 Old Hall Street, Liverpool, 3
CENTRAL 6386**NOTTINGHAM**
Pavilion Building, Pavilion Road
West Bridgford
NOTTINGHAM 83401**PICKFORDS HEAVY HAULAGE SERVICE**

Abnormal Loads • Lifting

MOBILE CRANES FOR HIRE • Branches in all large towns

CLASSIFIED ADVERTISEMENTS

CLASSIFIED ADVERTISEMENTS should be
addressed to THE MANAGER, Classified Adver-
tisements, MODERN TRANSPORT, Russell
Court, 3-16 Woburn Place, London, W.C.1.FOR SALE
CHAMOIS LEATHERSGUARANTEED hardware chamois leathers. Approx-
imately 22 in. by 16 in., only 6s. 11d. each (minimum
order six); 1 kip (30) less 5 per cent. County Chamois Co.,
Limited, Rocky Lane, Aston Cross, Birmingham.

SITUATION VACANT

**GLoucester RAILWAY CARRIAGE
and WAGON COMPANY LIMITED**
requires Designer with knowledge
of heavy transmissions for road or rail
vehicles. Permanent Appointment.
Apply Chief Designer**Building materials carried safely
—quickly—efficiently****BRITISH RAILWAYS** handle most efficiently the entire distribution of building materials
for the manufacturer. They collect such materials as tiles, firebricks, sanitaryware
in special containers, transport them quickly by train to the nearest Goods Yard, load
on to waiting lorries, and deliver direct to the building site. This way, it's quick, cheap
and efficient.Palletization is ideal for transporting refractory bricks—
British Railways carry many thousands of tons this way.Here you see cement being discharged from the special
pressurized bulk wagons at the customer's rail siding.**From circuses to cabbages**There is nothing British Railways cannot transport and every-
thing is dealt with as a separate problem. For instance, bi-
cycles, chemicals, furniture have special facilities; perishable
goods have highly insulated containers—the most efficient
of their kind in Britain.**Near-express speeds at night**Most of the freight work is done at night when the lines are
quieter. And now more and more freight trains are being
fitted with vacuum brakes. Not only does this make for greater
safety it also means trains can run at near-express speeds,
and so increase line capacity and improve punctuality.Whatever your product, whatever your problem, you can
rest assured that British Railways will give you excellent ad-
vice and first class service. Just get in touch with your local
Station Master or Goods Agent and your transport difficul-
ties are over.**GREEN ARROW SERVICE** Operating for both over-
seas and certain home freights in full wagon loads, this ser-
vice enables you to register consignments all the way to the
destination station or port for only 2/6d. Ask your local Station
Master or Goods Agent for full details.**BRITISH RAILWAYS**

LETTERS TO THE EDITOR

Road Transport Economics

The Editor is always glad to receive letters from
readers on subjects germane to the transport industry,
but these should be written as concisely as possible.
The opinions expressed therein must not, however,
be regarded as having editorial endorsement.
Where correspondents desire to use a nom-de-plume it is
essential that the Editor should be informed of the name
and full address of the writer as indication of good faith.

SIR,—In your leading article of January 11 you
imply that the position of the bus operator
could be improved by a reduction of the tax
on diesel oil. In so far that the unions claim that a
reduction in the same tax would allow higher
wages this might not be so. In so far as tax paid
by road transport exceeds the cost of maintaining
the roads and their ancillary signalling, etc., it can
be regarded as a return to the nation on the capital
locked up in the road system as a whole. The tax
on oil fuel is a far more reasonable tax than the
tax on vehicles in that it is related to the quantity
of fuel consumed and, therefore, to the use made
of the roads. More benefit would accrue to the bus
operator and to the A- and B-licence holders if the
tax on their vehicles were reduced and the tax on
C-licence vehicles and private cars were correspond-
ingly increased to cover the loss to the Exchequer.
It is uneconomic from a national point of view
for private cars and C-licences to increase at the
cost of public transport and A- and B-licences. The
user's interests may be otherwise, for he keeps in
his own hands that profit which would otherwise
go to the bus operator or carrier. Interest paid to
shareholders and country services subsidised by the
more profitable town routes can be regarded as
profit for this purpose. A differential in favour of
public service and A and B operators seems
desirable in the national interest.

On the demise of the tramways in this country
you did not mention the factor of our expanding
towns, and the need, not grasped by most tram-
way operators, to go out to the new suburbs for
traffic. Against their doing so was the provision of
roads but not tramway tracks by the local authori-
ties. It was cheaper to use what was provided and
run buses on the roads. In London, Paris and
elsewhere, the tramways may be said to have gone
underground; and the electrification of suburban
railways at Liverpool, Manchester, Glasgow, etc.,
develops along with the fall of the road-railway.
The Liverpool Overhead Railway (a specialised
form of tramway) might well be running today had
the extensions planned 40 years ago been carried
out.—Yours faithfully,

R. G. R. CALVERT.

45 Woodways, Oxhey,
Watford, Herts.**Smoking on the Lower Deck**

SIR,—Is there any body of bus passengers who
are compelled to submit to the discomfort of
smoking being permitted in the lower saloons
as is the case of double-deck buses in the Fylde
district of Lancashire. Not only on workmen's
services is smoking permitted, but on ordinary
stage journeys as well.

Elderly people, the very young, and some people
with respiratory complaints who are compelled to
travel must suffer painfully when having to in-
voluntarily inhale the smokers' smelly exhalations.
On a 15-min. journey from Oxford Square,
Blackpool, to Weston Camp, many smokers enjoy
their smoke even if it causes them to cough
vehemently between puffs. Any attempt by a
passenger to open a ventilator—ever so slightly—
is quickly met by the news that there is a draught,
just as if fresh air was poisonous, and recently
Kirkham U.D.C. appealed to the Ribblesdale company
to prohibit smoking in the lower saloons.

I am not an anti-smoker; I realise the huge sum
contributed in tobacco taxation, but I claim to
have as much right to complain of some smokers'
selfish behaviour as I have if an unsavoury person
interferes with my comfort when travelling in any
public service vehicle.—Yours faithfully,

W. TUCKER.

Blackpool.

Rapid Transit in Britain

SIR,—Your fair and balanced leading article
(December 21) on tramways in Britain has
awakened advocates of this rather sad mode
of transport from their long slumbers. Messrs.
Pullen and Farrell in their letters written in
defence of electric tramcars (January 11) at least
appear to recognise that street tramways are out-
moded, and it is encouraging that tram enthusiasts,
even if belatedly, have finally reached this
reluctant but factual conclusion. The logical
explanation for tramway extermination in the

United Kingdom is surely this indisputable fact.
The modern bus, whether diesel or electric, is a
highly efficient unit; it is the intolerable conditions
under which it operates during peak periods which
make for undue criticism.

I nevertheless have great sympathy with
exponents of rapid transit as distinct from tram-
way systems. With the rapidly increasing auto-
mobile ownership and the apparent reluctance of
the public to stagger working hours, segregation
of public transport from other road users should
be encouraged. This theory is, however, easier to
visualise than to put into practice. Liverpool, with
its reserved track tram routes, was one of the rare
instances where something on these lines might
have been achieved, but most tramway systems in
this country could not have lent themselves to such
modernisation without vast reconstruction in
downtown areas at fabulous expense. London,
despite the complete absence of trams, boasts a
magnificent and expanding rapid transit network.
Glasgow will also when the street tramways are
abandoned and certain suburban railways
modernised for suburban commuter traffic. The
electrification and/or dieselisation of existing rail-
ways, where economically justifiable, around our
largest cities, leads to a high degree of segregation
and the implementation of such projects by the
British Transport Commission must be applauded.
—Yours faithfully,

P. M. EAVIS.

123B Central Road,
Worcester Park, Surrey.

PUBLICATIONS RECEIVED

OILING THE WHEELS. A collection of humorous drawings by
Peter Kneebone originally produced for advertisements now
published in book form by Shell-Mex and B.P., Limited, Shell-
Mex House, Strand, London, W.C.2.

SOLDERING ALUMINIUM. Information Bulletin No. 23 published
by Aluminium Development Association, 33 Grosvenor Street,
London, W.1, completes the association's series on the methods
of joining aluminium and its alloys. The latest booklet deals
comprehensively with all aspects of joining aluminium by
soldering.

THE ELECTRIC TOOL USER. The 1957 autumn edition of the
house magazine of Wolf Electric Tools, Limited, Hanger Lane,
London, W.5, describes and illustrates the uses of portable
electric tools in various branches of the transport industry.

B.P. NEWS IN PICTURES, 1957. The fifth in the series of
annual pictorial reviews published by the British Petroleum Co.,
Limited, Britannic House, Finsbury Circus, London, E.C.2, in
which the most notable events and activities of the company
and its associates are illustrated.



Revised routing for Nottingham City
Transport buses to Clifton Estate, using the
new bridge over the Trent (January 25
issue). The earlier Nottingham—West
Bridgford—South Notts joint route is also
shown; Nottingham buses now cease to
operate the Wilford Lane route



As a carboy my mission in life is
to contain and carry a variety of
chemicals. I must be kept clean. When I leave the
Works I AM clean, and, you will agree, I should
be returned to my owners clean. But some cus-
tomers use me as a carrier for all kinds of their
own noxious fluids and send me back to the Works
in a filthy condition. So filthy, sometimes, that it is
necessary to break me up and then, replacements
being costly, full credit cannot be given on the deposit
which you have paid. Please ensure that I am used to
contain, exclusively, my original contents as delivered to
you and, when empty, ask my owners to collect me quickly.

IN YOUR OWN INTEREST, RETURN
EMPTIES COMPLETE WITH STOPPERS**F. W. BERK & Co. Ltd.**
Stratford, London, E.15

Telephone: MARYland 6644

and at Swansea, Manchester, Liverpool, etc.

Follain-Wycliffe
FOUNDRIES LTD.

SPECIALIST PRODUCTS IN CY
ABRASION-RESISTING ALLOY

**LOCO
BRAKE
BLOCK LIFE**
extended from
3 months to
2½ years

This is typical of the extra
service being obtained from
our CY Alloy Brake Blocks—
which although remarkably
resistant to wear, have no
adverse effect on loco tyres. This is one of our most
popular applications. After exhaustive tests many of
the best known manufacturers of locomotives fit CY
brake blocks as standard.

**FOLLAIN-WYCLIFFE
FOUNDRIES LTD.**
LUTTERWORTH • Near RUGBY
Tel.: Lutterworth 10, 60 & 152
Grams: "Wycliffe," Lutterworth

SOCIAL AND PERSONAL

Locomotive Manufacturers' President

SIR GEORGE H. NELSON, Bart., F.C.G.I., chairman of the English Electric group of companies, has been appointed president of the Locomotive and Allied Manufacturers' Association of Great Britain for the ensuing year. Mr. G. T. Owen, managing director of the North British Locomotive Co., Limited, has been appointed chairman of the Association.

Mr. M. Harbottle has been appointed district engineer, Inverness, Scottish Region.

Mr. W. J. P. Webber, who is general secretary of the Transport Salaried Staffs Association, has been appointed a part-time member of the National Coal Board.

Following the introduction of its new continental services through Manchester last spring, Aer Lingus is reorganising in the North of England. Mr. R. E. Van de Velde has been appointed city traffic superintendent in Manchester; Aer Lingus plans to open a new Manchester office in March.

Mr. C. V. Barrett, who has been appointed district operating superintendent, Norwich, Eastern Region, B.R., in the new regional traffic organisation, was educated at Archbishop Holgate's Grammar School, York, and entered the service of the L.N.E.R. in the goods manager's office at York. After head office and station experience in the North Eastern Area, he was appointed a traffic apprentice and received his training in the Scottish Area. This was followed by a period of special duties, including investigations into the movement of coal in the Edinburgh area, and the distribution of rolling stock, mainly in the Southern and Northern Scottish areas. He was appointed assistant yardmaster, Frodingham, in 1934 and subsequently assistant yardmaster, Doncaster, yardmaster, Frodingham, and, in 1941, assistant district operating superintendent, Cambridge, the position now vacated.



Mr. C. V. Barrett

Following the retirement of Mr. John Donovan as a member of the management board and chief labour officer of British Transport Docks, Mr. F. J. Norris, hitherto staff and establishment officer, British Transport Waterways, has been appointed staff and establishment officer of British Transport Docks. Mr. T. Birkett becomes staff and establishment officer of British Transport Waterways.

An audience of over 300 at the assembly hall of Leyland Motors Social Club recently witnessed the company's ninth annual distribution of apprentices' prizes. The apprentices were addressed by Sir Henry Spurrier, chairman and managing director, Leyland Motors, and Sir Jackson Millar, chairman, Albion Motors, and prizes were presented to over 50 successful apprentices by Mr. W. E. Pearson, managing director, Scammell Lorries.

At a technical meeting of the Institution of Railway Signal Engineers to be held at the Institution of Electrical Engineers at 6 p.m. on February 12, Mr. J. H. Currey, signal and communications development engineer, British Transport Commission, will read a paper entitled "The B.T.C. Automatic Train Control System"; he will deal with track equipment; steam locomotive equipment; and principles of operation.

We regret to record the death on January 31, at the age of 75, of Mr. Alfred Ernest Hudd, a consulting engineer responsible for the Strowger-Hudd system of automatic train control installed on the London, Tilbury and Southend line of the L.M.S.R. in 1938 (MODERN TRANSPORT, August 13, 1938). There had been earlier experiments on the L.M.S.R. and in 1931 on the Southern Railway at Byfleet.

The 1958 Brancker memorial lecture arranged by the Institute of Transport will be given by Air Commodore W. E. G. Mann, C.B., C.B.E., Director-General of Navigational Services, Ministry of Transport and Civil Aviation, on February 10, at 5.45 p.m. in the Jarvis Hall, 66 Portland Place, London, W.1. The title of the lecture will be "The Control of Air Traffic—Origin, Development and Future Requirements" (and not as previously announced).

Mr. W. Jackson has been made district operating superintendent, Leicester, London Midland Region, B.R. Mr. Jackson joined the North Eastern Railway in 1917. Appointed assistant to the district operating superintendent, Edinburgh, in 1946, and later in similar positions at Burntisland and Glasgow, he became freight trains assistant to the operating superintendent, Glasgow, in 1953, and district operating superintendent, Birmingham (Western) in February, 1955.

Following the retirement of Mr. H. S. Gordon, M.B.E., F.S.A., as welfare officer, London Transport, Mr. F. H. Spratling, F.I.A., chief establishment officer, will be responsible for matters concerning staff welfare other than the catering service, and Mr. K. R. Thomas, M.B.E., M.Inst.T., recruitment and training officer will be designated staff and welfare officer. Mr. C. J. Cornwall, F.I.A., is appointed staff administration officer. Mr. E. C. Ottaway, R.D.I., M.I.Mech.E., M.Inst.T., chief supplies officer, will be responsible for the catering service in addition to his present duties and will be redesignated chief supplies and services officer.

Mr. C. R. Buckley, deputy traffic manager of Crosville Motor Services, Limited, has been appointed traffic manager of the Bristol Omnibus Co., Limited, and Mr. J. Niblock, traffic manager, West Yorkshire Road Car Co., Limited, becomes traffic manager of Crosville. Mr. Buckley began his career with Crosville in 1929 and was recently appointed deputy traffic manager. Mr. Niblock joined Crosville in 1932. In 1947 he was appointed assistant traffic manager of the Eastern Counties Omnibus Co., Limited, and in 1953 traffic manager of the Brighton, Hove and District Omnibus Co., Limited. He became traffic manager of West Yorkshire in 1955.

Chairman of S.N.C.F.

MONSIEUR ANDRE SEGALAT, who has replaced Monsieur Louis Armand as chairman of the French National Railways, was a member of the Council of State from 1937. After the liberation he became private secretary to the Minister of Labour and then to the Minister of Works. Since 1946 he had been general secretary to the French Government. It will be recalled that Monsieur Armand became president of the committee of Euratom in January; he remains chairman of the International Union of Railways (U.I.C.) until the end of this year.

Mr. T. C. B. Miller has been appointed motive power officer (Great Eastern), as a consequence of the new Eastern Region traffic organisation.

The American Greyhound Corporation plans to open an office in London on March 1 at Piccadilly House, Regent Street, S.W.1. It will be a sales and service office for airlines, steamship lines and travel agents and it is understood that sales to the public will not be carried out direct.

It was announced recently that Mr. H. A. Mugliston, has been appointed district goods manager, Liverpool, London Midland Region, B.R.

He was educated at Clifton College and joined the former L.M.S.R. at Bristol in 1926. After holding various posts at stations and district offices in the Bristol and Birmingham areas, he was selected to attend the inaugural course at the L.M.S. School of Transport at Derby in 1938. Three years later he joined H.M. Forces in the Royal Engineers (Transportation Section) and was demobilised in 1946 with the rank of lieutenant-colonel. In April, 1946, Mr. Mugliston was appointed goods agent, Evesham, and later held similar positions at Gloucester and Edge Hill, Liverpool; he became assistant district traffic superintendent, Chester, in 1948. Since 1953 he has been shipping traffic superintendent, Belfast, London Midland Region.



Mr. H. A. Mugliston

Mr. W. E. Wright, F.C.S., has retired from the board of the Pyrene Co., Limited, and from control of the metal finishing division. Mr. H. F. Parshall, M.A., T.D., who has been on the board since 1947, takes responsibility for the division.

A party was given last week by the directors of the Anglo Overseas Transport Co., Limited, for Mr. A. L. Hammell, president of the Railway Express Agency, who was passing through London en route from the United States to Oslo.

We record with regret the death of Mr. B. D. Stanley, formerly secretary of the East Kent Road Car Co., Limited. He was appointed secretary and accountant in 1942 and retired in 1954. Mr. Stanley was awarded the M.B.E. in the Coronation Honours list of 1953 for his services to public transport.

Mr. W. G. Allen, the chairman, and Mr. B. Francis Caunt, managing director of Atkinson Lorries (Holdings), Limited, left recently for a 30,000-mile tour on which they will visit Rhodesia, their two new subsidiary companies in South Africa, and afterwards their distributors in Australia and New Zealand.

Mr. Leslie Hartridge (right), managing director of Leslie Hartridge, Limited, met at Waterloo station by Mr. E. H. Robinson, deputy managing director, on his return from a visit to the U.S.A. and Canada to study market conditions and appoint new agents for diesel test and maintenance equipment.



Mr. Leslie Hartridge (right), managing director of Leslie Hartridge, Limited, met at Waterloo station by Mr. E. H. Robinson, deputy managing director, on his return from a visit to the U.S.A. and Canada to study market conditions and appoint new agents for diesel test and maintenance equipment

Mr. R. D. Ropner, a director of Sir R. Ropner and Co. (Management), Limited, has been nominated president of the Chamber of Shipping for the current year and Sir Nicholas Cayzer, Bart., deputy-chairman of the British and Commonwealth Shipping Co., Limited, was nominated vice-president.

Viscount Simon, C.M.G., has been elected chairman of the Port of London Authority in succession to the late Viscount Waverley. He is, it is understood, to relinquish his shipping interests, including the deputy chairmanship of the P. and O. company, as soon as practicable; his term of office as president of the Chamber of Shipping expires on February 27.

A luncheon to M. Maurice Vignon to mark his retirement was held at the Dorchester Hotel by his friends in the travel industry on January 29 and was presided over by Mr. Charles Holt, who expressed the delight of all concerned at having known M. Vignon as a representative of French travel interests since 1920. His connection with this country was even earlier than that as he came to the coronation of King Edward VII and he married a girl from Wiltshire. A precedent was made for this type of luncheon in that Madame Vignon was present to receive a bouquet of flowers. M. Vignon will be given a gold watch. Special thanks were given to M. Vignon on behalf of Scottish travel agents by Mr. Ian D. Stephen from Aberdeen, who referred to the old alliance between their two countries. In his response the principal guest referred felicitously and wittily to some of his experiences in travel and in the British Army.

CUT YOUR TRAIN DETENTION LOSSES AND INCREASE YOUR TRACK CAPACITY



BY USING
THE

WESTINGHOUSE-SYKES

TOKENLESS INTERLOCKED BLOCK SYSTEM



ADVANTAGES:

1. All train movements by signal indications.
2. No reduction in train speeds for the exchange of tablets or tokens.
3. Any number of stations may be "switched out" without additional instruments or line wires.
4. No balancing of tablets or tokens.
5. Provides reversible working on double line sections for maximum track utilisation and track capacity.
6. Rapid interchangeability of components and ease of maintenance by "plug in" facilities.
7. Complete interlocked block working with the outdoor fixed signals interlocked either electrically or mechanically with the instruments.



Westinghouse Brake & Signal Co. Ltd., 82 York Way, London, N.1

Associated in India with

Saxby & Farmer (India) Private Ltd., Calcutta

Associated in Australia with

McKenzie & Holland (Australia) Pty., Ltd., Melbourne

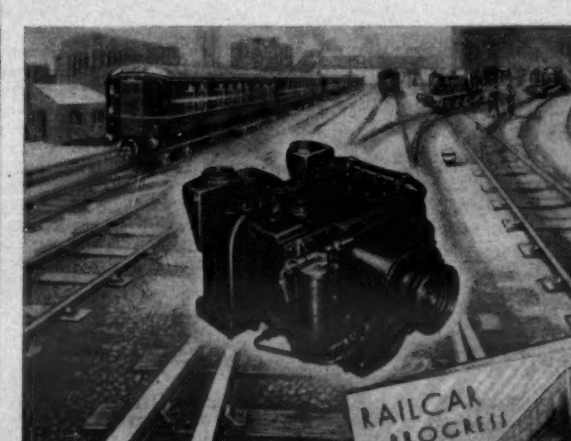
Associated in South Africa with Westinghouse Brake & Signal Co. S.A. (Pty.) Ltd., Johannesburg

Agents: Bellamy & Lambie, Johannesburg

CLASSIFIED ADVERTISEMENTS

Classified advertisements can be accepted up to 2.30 p.m. on Monday for insertion in the current week's issue.
Rate: 6d. per word (minimum 14 words—7s.) Use of Box Number 2s. extra.

CLASSIFIED ADVERTISEMENTS
MODERN TRANSPORT, 3-16 WOBURN PLACE, LONDON, W.C.1



RAILCAR PROGRESS

A comprehensive survey of diesel railway workings in Great Britain, Northern Ireland and Eire, dealing particularly with the modernisation programme carried out by British Railways

FREE ON REQUEST



SELF CHANGING GEARS LTD

MAKERS AND PATENTEES OF THE WILSON GEARBOX
LYTHALLS LANE · COVENTRY · ENGLAND

IMPORTANT CONTRACTS

Comet Buses in Demand

ONE of the biggest private operators in India, T. V. Sundram Iyengar and Sons Pvt., Limited, of Madurai, has just ordered 30 Indian-built Leyland Comet passenger chassis for its fleet, which will be fitted with bodies constructed in the company's own workshops at Madurai. In addition to the Comets, the company has also ordered six Leyland Royal Tiger World-master chassis for use on long-distance coach services. A second Indian operator to order Comet passenger chassis is Kerala State Transport, which has placed a repeat order for 80 Indian-built chassis as a result of the exemplary performance of its existing fleet of 60 similar vehicles.

New Eastern Region Contracts

The Eastern Region of British Railways has placed the following contracts:

Humber Graving Dock and Engineering Co., Limited, Immingham Dock, for repair work on s.s. *Arnhem*.
British Insulated Callender's Construction Co., Limited, Kirkby, for foundation auger unit for use in connection with the excavation of foundations for overhead line equipment.
Westinghouse Brake and Signal Co., Limited, London, N.1, for provision of wagon-description system for Temple Mills new marshalling yard.

North Eastern Region Contracts

Recent contracts placed by the North Eastern Region of British Railways include:

H. Berry and Co., Limited, Leeds, for one spring scragging and testing machine for York wagon works.
Broom and Wade, Limited, High Wycombe, for air compressor and accessories for Simonside wagon repair depot.
British Insulated Callender's Construction Co., Limited, Kirkby, for overhead current collector equipment at Dinsdale rail welding depot.
Brush Electrical Co., Limited, Loughborough, for two 500-kVA transformers at York North motive power depot.

British Electronics for German Defence

Decca Radar, Limited, has received a substantial contract amounting to approximately £500,000 for the supply of electronic equipment for the Defence Forces of the Federal Republic of Germany. This highly specialised equipment of most advanced design results from research and development carried out by Decca Radar over the past three years. Equipment based on Decca developments in this field is also being supplied for defence and civil requirements of other countries.

Mechanical Ticket Issuing

The installation of a new Multiprinter ticket printing and issuing machine in the booking office at Durham Station marks another step in the modernisation of the North Eastern Region of British Railways. The machine, supplied by Westinghouse Garrard Ticket Machines, Limited, is the first of its kind to be introduced in the North Eastern Region, and it was brought into use on February 1. The new machine prints up to 630 different railway tickets and, for accountability and statistical purposes, makes a record of each ticket issued. A description of its scope appeared in our issue of July 20, 1957.

Southern Region Contracts

The Southern Region of British Railways has placed the following new contracts:

The Demolition and Construction Co., Limited, London, S.W.1, for construction of four signalboxes and 21 relay rooms for extension of electrification, Kent Coast lines, and a new control station at Canterbury.
James Longley and Co., Limited, Crawley, for new retaining wall at Redhill Station.
The Cleveland Bridge and Engineering Co., Limited, London, S.W.1, for reconstruction of bridge at Shortlands Station.
Taylor Woodrow Construction, Limited, Southall, for extensions to platforms at Hastings and Tonbridge stations.
G. N. Haden and Sons, Limited, London, W.C.1, for steam and condensate mains at Brighton works.
Soil Mechanics, Limited, London, S.W.3, for soil survey, site investigation and trial boreholes at Victoria Eccleston Bridge.
Faulkner, Greene and Co., Limited, London, S.E.1, for patent glazing to new platform roofs at Weymouth Station.

TENDERS INVITED

THE following items are extracted from the Board of Trade Special Register Service of Information. Inquiries should be addressed, quoting reference number where given, to the Export Services Branch, Board of Trade, Lacon House, Theobalds Road, London, W.C.1.

February 17—Thailand.—Royal Thai Air Force for eight metre-gauge BOGIE TANK WAGONS of 25,000 litres capacity for aviation jet fuel. Tenders, endorsed "Tender for 25,000 Litres Bogie Tank Wagons B.E. 2501," to Bid Considering Committee, Directorate of Transportation, Royal Thai Air Force, Don Muang, ESB/2157/58.

February 18—India.—Directorate-General of Supplies and Disposals for several hundred AXLE BOXES. Photocopies of tender documents from Export Services Branch, B.O.T., price 13s. (ESB/2512/58).

February 19—Korea.—International Co-operation Administration for four 10-12 cu. yd. WHEELED SCRAPERS and five 100-d.h.p. DIESEL CRAWLER TRACTORS. Tenders to the Office of Supply, Government of the Republic of Korea, Seoul. (ESB/2322/58/ICA).

February 19—Union of South Africa.—South African Railways for about 32,000 electrical SIGNAL LAMPS. Photocopies of tender documents from Export Services Branch, B.O.T., price 5s. (ESB/1907/58).

February 20—Vietnam.—International Co-operation Administration for four 10-ton capacity tilt-platform TRAILERS and one 20-ton capacity SEMI-TRAILER (Invitation 266-17127); four 3-ton capacity TRAILERS (Inv. 267-17127); six four-by-four 37,000 g.v.w. LOBBIES and four UTILITY VEHICLES (Inv. 261-17127); six four-by-four 3-ton capacity LOBBIES and five 1-ton capacity PICK-UP TRUCKS (Inv. 262-17127); and one ARTICULATED TRACTOR for 62,000 lb. g.v.w. and three 3-ton capacity LOBBIES (Inv. 263-17127). Tender documents from the Vietnamese Embassy, 12 Victoria Road, London, W.8, quoting appropriate invitation numbers.

RAILWAY TRANSFERS

(Continued from page 12)

The railways passed from the Eastern Region to North Eastern are Barnsley Court House—Monk Bretton (9), Stairfoot—Cudworth Goods (10), Wombwell West—Cudworth (11), and Haxey Junction—Marshland Junction (12). The reverse process takes place with Grimethorpe—Houghton Colliery branch from Stairfoot (13), and the Derfield—Cudworth section (14).

The routes transferred from Western Region to London Midland Region are Roman Bridge to Blaenau Festiniog North (15), Barnet Green to Birmingham, including the Halesowen Joint Line (16) and Marylebone to Northolt or to Harrow South (17), except that Marylebone C.M. and E.E. electrical repair shop will go to the Eastern Region (18).

Short sections which have gone from Eastern to London Midland jurisdiction include Luffenham and Morcott (19), stations between Peterborough and Kettering and Collyweston Station and Daybrook and Leen Valley Sidings (20) in the Nottingham area. Adjustments from L.M. to Eastern are made with the transfer of Crouch Hill (21), Dunford Bridge and Hazelhead Bridge and sidings (22). Standedge Tunnel (23) is now taken into the North Eastern Region from the L.M. In a number of cases better definitions than heretofore have been given of boundary points.

SHIPPING and SHIPBUILDING

P. and O. and Orient in Pacific

JOINT operation by the P. and O. and Orient Line of passenger services across the Pacific to Australia and to the Far East was announced for the immediate future by Sir Donald Anderson, deputy chairman of P. and O., in New York last week. On the Australian route P. and O. ships would be integrated with the present Orient Line service and the new North Pacific venture will be known as the Orient and Pacific Lines. It will be covered by ships of both companies extending from the South Pacific—proceeding to or from America via Honolulu, Japan, Hong Kong and Manila—and also with vessels from the P. and O. Far Eastern Service. Both companies will use their 22½-knot 30,000-ton ships, the largest to ply in the Pacific in peacetime service, and in 1960 and 1961 they will be supplemented by the large new 27½-knot liners now on order for both companies. This extension of P. and O. operations recognises the growing importance of the Pacific area in world commerce and as a tourist attraction.

Galway Reawakes

PREPARATIONS are already being pressed forward by Galway Harbour Board for the visit in July of the Holland-America liner *Ryndam*, the first liner to call there since 1940. Renovations are to be carried out and it is intended to remit port dues on this occasion. In 1933 there were 101 liner calls at this port.

Free-Piston Engine Licence

A LICENCE has been granted by the Alan Muntz company, licensor for the Pescara free-piston engine system in the British Commonwealth, to Swan Hunter and Wigham Richardson, Limited, for the manufacture of free-piston gasifiers, with a combustion cylinder diameter of six inches or over, for marine and industrial applications other than for whaling vessels, tugs and trawlers.

U.S. Line Offers Shares

PUBLIC finance for its development programme is being sought by the Grace Line, the important U.S. passenger and cargo line to Latin America, which is offering bond issues valued at over £7 million. The Grace Line is engaged on a £125 million vessel replacement programme that will spread over the next 12 to 15 years. The bonds will be available during the second half of the year and would represent three-quarters of the cost of the two new liners the *Santa Rosa* and the *Santa Paula*.

Survey for Clyde Graving Dock

A MOVE has been made in proposals to provide a major graving dock on the Clyde with full facilities for the oiling and desludging of tankers and all necessary facilities. The Inchgreen Investigating Co., Limited, will be formed to investigate a site in the Grand Harbour, Greenock. General Sir Gordon MacMillan, chairman of the Greenock Harbour Trustees, has agreed to act as chairman. Leading shipbuilders and shiprepairers on the Clyde are interested, the Scottish Council (Development and Industry) and finance houses will all be represented it is stated.

Pushers for Rhine Traffic

THE first pusher boat for the Rhine trade has now made its appearance in Amsterdam harbour and has been making trial runs on the open river between the Ruhr and Rotterdam. The combination consists of four barges and the pusher unit. The barges are each 213 ft. long and 30 ft. wide, and when going upstream on the Rhine are tied in pairs; when empty and going downstream two barges are tied alongside each other, the pusher being made fast astern with a barge tied on to either side. To navigate the southern part of the Amsterdam—Rhine canal, the four barges were fastened astern of each other with the push-tug made fast to the stern of the rearmost barge, this combination having a total length of some 1,000 ft.

U.S. Military Transport Service

PARTLY because of the unsuitable character of many of its vessels, the U.S. Military Sea Transportation Service is reported to be considering offering its task of transporting servicemen and dependants to private shipping companies on the British pattern. Last year M.S.T.S. carried 745,000 passengers—approaching the total civil passenger volume by sea across the North Atlantic. Last month saw the maiden voyage of its roll-on-roll-off vehicle carrier, the *Comet*, first to be designed de novo for that purpose. She left Philadelphia for St. Nazaire with 378 army vehicles. The ship has four side ports and a stern port with ramps for loading purposes. On this voyage loading, it is reported, took ten hours.

Japanese Programme Revised

THE Japanese Ministry of Transport has decided to authorise construction of 250,000 tons gross of shipping under the government-sponsored building programme for the next financial year commencing April. This represents a sharp decline from the 414,675 tons authorised under the present financial year's shipbuilding programme which was the largest since the end of the war. Originally the Ministry planned to authorise the construction of 350,000 tons during the forthcoming year but reduced this figure because of money shortage. The new tonnage would comprise 115,000 tons of liners, 45,000 tons of freighters and 90,000 tons of tankers. Building prices under the programme would be reduced, it is stated, by 20 per cent on the average to 140,000 yen per ton for liners, 108,000 yen per ton for freighters, and 100,000 yen for tankers (1,005 yen equal £1).

FINANCIAL RESULTS

NOTES on the trading results, dividends and financial provisions of companies associated with the transport industry are contained in this feature, together with details of share issues, acquisitions and company formations or reorganisations.

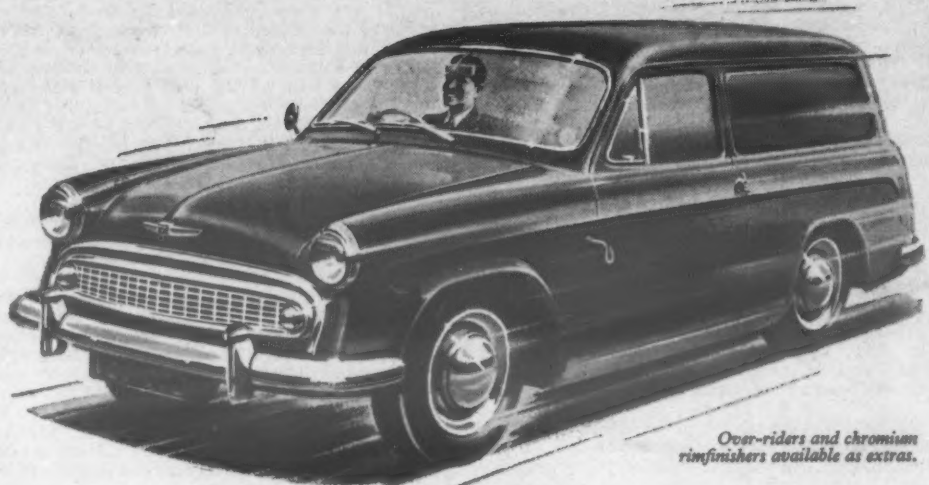
Silentbloc

Silentbloc, Limited, is paying an interim dividend of 3d. per share in respect of the year ending May 31 (same).

Yorkshire Imperial Metals

Yorkshire Imperial Metals, Limited, as the new company which represents the fusion of the copper and alloy tube, fittings and plate activities of the Yorkshire Copper Works, Limited, and of Imperial Chemical Industries, Limited, has now been formed. The new company disposes of assets worth about £18,000,000, including the former I.C.I. plants at Kirkby (Liverpool), Smethwick (Staffs), Landore (Swansea), and Dundee, and the former Yorkshire Copper plants at Leeds, Barnhead (Glasgow) and Castleford (Yorks).

BIGGER AND BETTER!



Over-riders and chromium rimfinishers available as extras.

the brilliant new

COMMER Cob

Now with all the powerful advantages

of a fully-proved o.h.v. engine

* MORE STYLE

More graceful lines, a bigger body, and greater power distinguish this brilliant new Commer 'Cob'. Thoroughly proved in service, the new power-packed o.h.v. engine enhances performance yet retains the same cost-cutting economy as its predecessor. There's more room for the load—and the driver, too—while an improved suspension and a longer wheelbase ensure an extremely comfortable ride. Re-designed from end to end, the 'Cob' will serve you superbly, whether on local deliveries or long distance work. Call in and see it at your local Commer dealer's.

* MORE POWER

* MORE SPACE

* MORE COMFORT

A ROOTES PRODUCT—BUILT STRONGER TO LAST LONGER!

COMMER CARS LTD. LUTON

EXPORT DIVISION: ROOTES LTD. DEVONSHIRE HOUSE PICCADILLY LONDON W.1

RAX

PATENT
ROLLER LEAF
SHUTTER DOORS



Simplicity is a notable feature of Rax Doors whether power operated by push button, ray or autopad controlled. The patent hinged design and general system of construction ensure trouble-free service for an indefinite time.

Send for illustrated literature to Dept. 4

POTTER RAX

LIMITED
WILTON WORKS • SHEPPERTON ROAD • LONDON • N.1

Telephone: CANbury 6455 (4 lines)

Telegrams: ENCRAXGL, Naida, London

Midlands Associates: ROLLER SHUTTERS LTD. 239-242 GREAT LISTER STREET, BIRMINGHAM. 7. Telephone: Airon Cross 2028
Branches at BELFAST, DUBLIN, NEWCASTLE-ON-TYNE, LIVERPOOL, MANCHESTER, BRISTOL, PLYMOUTH, EXETER